BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR: (1) REVISION OF ITS RETAIL RATES UNDER ADVICE NOTICE NO. 312; (2) AUTHORITY TO ABANDON THE PLANT X UNIT 1, PLANT X UNIT 2, AND CUNNINGHAM UNIT 1 GENERATING STATIONS AND AMEND THE ABANDONMENT DATE OF THE TOLK GENERATING STATION; AND (3) OTHER ASSOCIATED RELIEF,	)	**CASE NO. 22-00286-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

DIRECT TESTIMONY

of

JOHN M. GOODENOUGH

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
Adjusted Base Period	Base Period adjusted for known and measureable changes and regulatory requirements
AMI	Advanced Metering Infrastructure
Base Period	July 1, 2021 through June 30, 2022
C&I	Commercial and Industrial
Commission	New Mexico Public Regulation Commission
DSM	Demand Side management
DW	Durbin-Watson
Future Test Year	July 1, 2023 through June 30, 2024
Golden Spread	Golden Spread Electric Cooperative, Inc.
IHS Markit	IHS Markit Ltd.
IDR	Interval Demand Recorder
kW	Kilowatt
kWh	Kilowatt-hour
Linkage Period	July 1, 2022 through June 30, 2023
MW	Megawatt
MWh	Megawatt-hour
NOAA	National Oceanic and Atmospheric Administration

Acronym/Defined Term	**Meaning**
Operating Companies	Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation, and SPS
R^2 statistic	Coefficient of determination
RFP	Rate Filing Package
SPS or Company	Southwestern Public Service Company, a New Mexico corporation
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Service Inc.

LIST OF ATTACHMENTS

Case No. 22-00286-UT
Direct Testimony
of
John M. Goodenough

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is John M. Goodenough. My business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. On whose behalf are you testifying in this proceeding?

A. I am filing testimony on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS" or "Company") and wholly-owned electric utility subsidiary of Xcel Energy Inc. ("Xcel Energy").

Q. By whom are you employed and in what position?

A. I am employed by Xcel Energy Services Inc. ("XES"), the service company subsidiary of Xcel Energy, as Director; Sales, Energy, and Demand Forecasting.

Q. Please briefly outline your responsibilities as Director; Sales, Energy, and Demand Forecasting.

A. I am responsible for the development of forecasted customer, sales, and peak demand data as well as forecasts of economic conditions for service territories of the Xcel Energy Operating Companies[1], and for the presentation of this information

[1] Xcel Energy Operating Companies include Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation, and SPS.

to Xcel Energy's senior management, other Xcel Energy departments, and various regulatory and reporting agencies. I am also responsible for Xcel Energy's Load Research function, which designs, maintains, monitors, and analyzes electric load research samples in the Xcel Energy Operating Companies' service territories. Finally, I am responsible for developing and implementing forecasting, planning, and load analysis studies for regulatory (ratemaking and resource planning) proceedings.

Q. Please describe your educational background.

A. I graduated from the University of Delaware with a Doctor of Philosophy degree in Economics. I also hold a Master of Arts degree in Economics from the University of Delaware and a Bachelor of Arts degree in Economics from the University of Maryland.

Q. Please describe your professional experience.

A. I have worked in a sales forecasting role since 2007. I began my career in forecasting as a Regulatory Affairs Analyst at Pepco Holdings, Inc. from 2007-2010, followed by a role as a Principal Analyst at Baltimore Gas and Electric from 2010-2014. I worked as an Energy Markets Specialist at Southern California Edison from 2014-2016 and as a Manager, Energy and Revenue Forecasting and Analysis at Arizona Public Service from 2016-2019. I started as Manager, Energy

Forecasting for Xcel Energy in October 2019 and was promoted to my current role as Director, Sales, Energy, and Demand Forecasting in May 2022.

Q. Have you attended or taken any special courses or seminars relating to public utilities?

A. Yes. I have attended Itron's Load Forecasting Workshops. I am also a member of Itron's Energy Forecasting Group and Edison Electric Institute's Load Forecasting Group. Membership in these groups helps me to stay up-to-date on industry standards in energy forecasting (including weather normalization).

Q. Have you previously provided testimony before a regulatory commission?

A. Yes. I submitted pre-filed written testimony in SPS's two most recent base rate cases before the New Mexico Public Regulation Commission ("Commission"), Case Nos. 19-00170-UT and 20-00238-UT. I have also testified before the Colorado Public Utilities Commission, the Minnesota Public Utilities Commission, the Public Utility Commission of Texas in various rate case, resource plan, and certificate of convenience and necessity proceedings.

II. ASSIGNMENT AND SUMMARY OF TESTIMONY AND RECOMMENDATIONS

Q. What is your assignment in this proceeding?

A. The purpose of my testimony is threefold. First, I describe SPS's load research function and the load research information that is used for cost allocation and rate design in this proceeding. Second, I explain how SPS adjusted sales and demand for the period July 1, 2021 through June 30, 2022[2] ("Adjusted Base Period") to minimize the impact of abnormal weather patterns experienced during the Adjusted Base Period on the sales and demand used to set rates for the future. Third, I describe the sales and peak demands forecasts for the Linkage Period[3] and Future Test Year[4] and explain the methodology SPS uses to develop the forecasts. This information is used to calculate present revenues and the allocation of production and transmission capacity costs among classes.

In addition, I sponsor or co-sponsor Schedules P-1, P-5, and P-6 of SPS's Rate Filing Package ("RFP").

[2] Base Period is the period July 1, 2021 through June 30, 2022.

[3] Linkage Period is the period July 1, 2022 through June 30, 2023.

[4] Future Test Year is the period July 1, 2023 through June 30, 2024.

Q. Please provide a summary of conclusions and recommendations in your testimony.

A. Load research is the systematic collection and analysis of customers' electrical energy and demand requirements. SPS uses information from Interval Demand Recorder ("IDR")[5] meters to determine the coincident and non-coincident peaks for all customer classes. For the "Census" classes, which are the customer classes in which all customers have IDR meters, the meters provide actual measurements of demand. However, it is costly and not feasible to install an IDR meter for every customer in every class solely for load research purposes, given their functionality. Therefore, for those customer classes in which not all customers have IDR meters, which are referred to as the "non-Census" classes, it is necessary to develop load research samples to estimate the coincident and non-coincident peaks for the classes.

Using information from the IDR meters for the Census classes and information from the load research samples for the non-Census classes, I have provided various load research statistics to SPS witness Richard M. Luth, who incorporates those statistics in the class cost of service study and rate design he

[5] IDR meters are meters capable of recording loads for each interval of time.

presents. Specifically, I provided the class coincident and non-coincident peak demand for Census classes and the class coincident and non-coincident load factors at peak for the non-Census classes.

SPS has calculated the effects of abnormal weather on Base Period sales using industry standard regression modeling techniques. Normal daily weather was based on the average of the last 30 years of historical heating degree days, cooling degree days, and precipitation data. The Base Period heating degree days were 12.4% below normal; cooling degree days were 13.8% above normal; and precipitation was 28.7% below normal. SPS calculated the effects of abnormal weather on Base Period sales for customer classes whose consumption patterns are affected by the weather using weather normalization regression coefficients derived from econometric models. In total, warmer-than-normal winter weather, hotter-than-normal summer weather, and lower-than-normal precipitation combined resulted in actual sales being 5,829 megawatt-hours ("MWh") or 0.1% higher than normal. Therefore, Base Period sales were adjusted (i.e., decreased) by 5,829 MWh.

Similarly, SPS also calculated the effects of abnormal weather on the coincident peak demands in the Base Period for total retail and full requirements

wholesale at both the transmission and production level. Taken together, the weather deviations resulted in an average of -4 megawatts ("MW"), or 0.1%, less retail peak demand per month and an average of -5 MW, or 1.5%, less full requirements wholesale peak demand per month at the transmission level and -4 MW, or 1.9%, less wholesale peak demand per month at the production level from July through August 2021 and June 2022 of the Base Period. Note that the transmission and production wholesale weather adjustments are zero in June 2022 as the customers all moved to partial requirements after May 2022.

SPS also calculated the effect of abnormal weather on Golden Spread Electric Cooperative, Inc.'s ("Golden Spread") full load peak demand coincident with the SPS transmission system peak demand. The average weather adjustment for the Golden Spread full load peak demand coincident with the SPS transmission system peak demand for the four months of June through September of the Base Period was 4 MW per month.

I provided the MWh and MW impacts of abnormal weather to Mr. Luth, who uses them to calculate present revenues and the allocation of production and transmission capacity costs among classes. SPS's estimates of weather normalized sales are reasonable, consistent with previously-approved Commission practices,

and should be used to establish SPS's base rate revenue deficiency and design rates in this proceeding.

With respect to the sales forecast, I explain the methodology used to develop the sales and peak demand forecasts. These forecasts are developed primarily using regression modeling, which is a common technique for forecasting sales. The forecast models are analyzed to ensure the estimates are robust and the model coefficeints are statistically significant. There are additional exogoneous adjustments for drivers of growth, such as electric-vehicle adoption, that are not captured with historical trends.

The total number of retail electric customers in SPS's New Mexico service territory increased by an average of 0.8% per year from 2016 through 2021, while retail sales growth has averaged 8.2% over the same period of time, after accounting for abnormal weather. During the Adjusted Base Period, the total number of SPS's New Mexico retail customers grew by 1.0% and retail sales grew by 14.2%, after accounting for normal weather. During the Linkage Period, the number of SPS's New Mexico retail customers is expected to grow by 0.9% and retail sales are expected to grow 7.1%. During the Future Test Year, the number of SPS's New Mexico retail customers is expected to grow by 1.1% and retail sales are expected

to grow 9.4%. The expected growth in retail sales is largely driven by growth in the Commercial and Industrial ("C&I") classes due to expansion of the oil and gas industry in southeast New Mexico.

Linkage Period sales are expected to be 600,686 MWh, or 7.1%, higher than the Base Period sales in the New Mexico service territory. Future Test Year sales are expected to be 1,445,389 MWh, or 17.1%, higher than Base Period sales. Linkage Period retail peaks during the months of June through September are expected to average 154 MW, or 4.4%, higher than the Base Period, and Future Test Year retail peaks are expected to be 324 MW, or 9.4%, higher than the Base Period.

I provided the MWh and MW forecasts to Mr. Luth, who uses them to calculate present revenues and the allocation of production and transmission capacity costs among classes.

I recommend that the Commission accept the sales and demand forecasts described in my testimony to develop rates in this proceeding.

Q. How is your testimony organized?

A. Section III discusses SPS's load research function. Section IV discusses SPS's weather normalization methodology, and Section V discusses the weather's effect on Adjusted Base Period sales. Section VI discusses the weather's effect on

Adjusted Base Period peak demand. Section VII describes the methodology used to develop the sales forecasts, and Section VIII describes recent trends and the sales and demand forecasts for the Linkage Period and Future Test Year. Section IX provides the rate sheet forecast.

Q. Were Attachments JMG-1 through JMG-9 prepared by you or under your direct supervision and control?

A. Yes.

Q. Were the RFP schedules that you sponsor or co-sponsor prepared by you or under your direct supervision and control?

A. Yes.

Q. Do you incorporate the RFP schedules that are sponsored or co-sponsored by you into your testimony?

A. Yes.

III. LOAD RESEARCH

Q. What is the purpose of load research?

A. Load research is the systematic collection and analysis of customers' electrical energy and demand requirements by time-of-day, month, season, and year. This data, which includes load research samples, is collected and analyzed by customer classes, stratums of customer classes, and other subsets of customer classes. Load research enables utilities to better understand customers, their consumption patterns, their consumption responses to various factors, and the impact of customers' energy requirements on the electric utility's system. In addition, load research data is used to develop demand and energy allocators for cost allocation studies and is used in designing rates.

Q. What are load research samples?

A. Load research samples are subsets of the entire population that SPS surveys to estimate the characteristics of the entire population. Because it is costly and not feasible to install IDR meters for every customer in all customer classes solely for load research purposes, given their functionality, it is necessary for SPS to develop load research samples to determine the coincident and non-coincident peaks for certain classes.

SPS's load research samples are developed using a stratified random sampling method. This technique divides the class of interest into smaller groups with like characteristics. This method effectively reduces the overall variance of the class, thereby reducing the sample size. The samples are designed to meet or exceed the "90/10" load research standard specified by Federal Energy Regulatory Commission regulations implementing the Public Utilities Regulatory Policies Act of 1978:

> Accuracy Level. If sample metering is required, the sampling method and procedures for collecting, processing, and analyzing the sample loads, taken together, shall be designed so as to provide reasonably accurate data consistent with available technology and equipment. An accuracy of plus or minus 10 percent at the 90 percent confidence level shall be used as a target for the measurement of group loads at the time of system and customer group peaks.[6]

While this standard is no longer included in the Code of Federal Regulations, based on my experience, it is still commonly used as the guideline for load research accuracy within the utility industry. Data validation is performed regularly on the load research samples to ensure that the energy use of the sample corresponds closely with the population energy use.

[6] *See* 18 C.F.R. § 290.403(B) (repealed 1992).

Q. Does SPS use load research samples to determine the demand of all customer classes?

A. No. It is not necessary to use load research samples for customer classes in which all customers have IDR meters because the IDR meters provide actual measurements of demand. It also is not necessary to conduct load research samples for the Street Lighting and Area Lighting classes because lighting facilities are generally unmetered. Most of the customers with IDR meters are in the Large General Service-Transmission class, although some Primary General Service customers with on-site generation also have IDR meters. In addition, a few of the customers with individual rate schedules have IDR meters installed. As noted earlier, I refer to the classes in which all customers have IDR meters as "Census" classes. SPS uses the output of those IDR meters to determine the Census classes' demands for purposes of allocation, rate design, and billing.

Q. For which customer classes has SPS developed load research samples?

A. SPS develops load research samples for its non-Census classes throughout its service territory in both New Mexico and Texas. SPS developed load research samples for the following New Mexico retail non-Census customer classes:

- Residential Service;
- Residential Space Heating Service;

- Small General Service;
- Secondary General Service;
- Irrigation Service;
- Primary General Service;
- Small Municipal and School Service; and
- Large Municipal and School Service.

Q. How does SPS go about performing the load research for the non-Census classes?

A. As I discussed earlier in my testimony, it is cost-prohibitive to install an IDR meter for load research purposes for every customer. Consequently, SPS installs IDR meters on a random sample of customers in each non-Census class (developed as I previously described). SPS then uses the electric usage data from those sample customers to extrapolate the demand data for the remainder of the class.

Q. What load research statistics did you provide for SPS's cost allocation study and rate design?

A. For each SPS Census customer class, I provided the class coincident peak demand and non-coincident peak demand. For each SPS non-Census customer class, I provided: (1) the load factors at the time of the monthly system peak, which is the

class coincident peak; and (2) the load factors at the time of the monthly class peak, which is the class non-coincident peak.

Q. Please define the terms "monthly system peak," "class coincident peak," "monthly class peak," and "class non-coincident peak."

A. The *monthly system peak* is the 60-minute interval in each month in which SPS's system experiences the highest demand, and each class's demand during that 60-minute interval is the *class coincident peak*. The *monthly class peak* is the 30-minute interval in each month in which a class experiences its highest demand. Unless the monthly class peak occurs during the same 60-minute interval as the monthly system peak, the monthly class peak is a *class non-coincident peak*.

Q. What is a load factor?

A. A load factor is the ratio of the average load in kilowatts ("kW") supplied during a designated period to the peak or maximum load in kW occurring in that period. For example, assume a customer used 10,000 kilowatt-hours ("kWh") during a 30-day period (720 hours) and had a maximum demand of 21 kW during this same period. The customer's average load would be 13.89 kW (i.e., 10,000 kWh / 720 hours = 13.89 kW). Dividing that number by 21 kW leads to 0.66 (i.e., 13.89 / 21 = 0.66), which is then multiplied by 100 to arrive at a load factor of 66%.

Q. How did SPS use the non-Census class's load factors derived from your load research and the Census class's peak demand data?

A. I provided the non-Census class coincident and non-coincident load factors at peak and the Census class coincident and non-coincident peak demand for each month to Mr. Luth who used them to develop demand allocators for the Linkage Period and the Future Test Year. Mr. Luth discusses SPS's demand allocators in further detail in his testimony.

Q. How did SPS calculate the demand at the time of the monthly system peak and the demand at the monthly class peak for the non-Census classes?

A. As explained by Mr. Luth, each non-Census class's demand at the time of the system peak was calculated by applying the monthly system peak load factors derived from the load research to the monthly sales by customer class. Each non-Census class's demand at the time of the non-coincident peak was calculated by applying the monthly class peak load factors derived from the load research to the monthly energy sales by customer class.

Q. Did you make any adjustments to the class demands at the time of the monthly system peaks?

A. Yes. Because the hourly loads for the sample classes are estimates, the sum of each hourly demand, adjusted to generation level, will almost never equal SPS's

total system load. To account for this difference, the sample classes were adjusted each month so that the sum of all hourly demand equals the hourly system load at the hour of SPS's monthly system peak demand. Mr. Luth describes this process in his direct testimony. Both monthly system peak demand by class and monthly non-coincident class peak demands were adjusted consistent with the proportional allocation process discussed above.

Q. Is SPS planning to install Advanced Metering Infrastructure?

A. Yes. SPS has filed an application to implement grid modernization components that include Advanced Metering Infrastructure ("AMI") in Case No. 22-00178-UT, which is currently pending before the Commission. Assuming SPS's application is approved, SPS will deploy AMI in 2024.

Q. How would the deployment of AMI impact SPS's load research?

A. Our load research program would be further enhanced by enabling more granular load estimates for multi/single family units as an example across customer classes for cost of service functions. Further, AMI data will potentially enable more up-to-date relevant insights and details about customer consumption which can further enhance modeling and forecast optimization efforts. Unbilled revenue estimates would be further enhanced with AMI thereby lending itself to improved forecast performance tracking. Meter reading frequency would be every 15 minutes, sent

back to SPS back end systems across the FAN (Field Area Network) every four hours to then be stored in the corporate cloud system.

IV. WEATHER NORMALIZATION METHODOLOGY

Q. Please describe the data and data sources SPS relied on to develop the Adjusted Base Period weather adjustment coefficients.

A. SPS uses econometric models to develop the weather coefficients used in the weather normalization process. These coefficients quantify the impact of a one-unit change in weather on sales per customer. The inputs to the econometric models include historical billing-month sales and monthly number of customers by rate class, which were obtained from SPS billing system reports.

Q. What measure of weather did SPS use for the weather normalization of New Mexico Adjusted Base Period retail sales?

A. The measure of weather used was heating degree days and cooling degree days, using a 65-degree Fahrenheit temperature base, and rainfall equivalent precipitation, measured in inches. This information was obtained from the National Oceanic & Atmospheric Administration ("NOAA") and was measured at the Roswell, New Mexico, weather station. The workpaper for Schedule P-6 provides the historical data and the calculations applied to develop the weather variables used to weather normalize New Mexico Base Period retail sales.

Q. Did the weather reflect the same billing days as the sales data?

A. Yes. To align the weather data with the same period of time as the billing-month sales data, the heating degree days, cooling degree days, and precipitation data were weighted by the number of times a particular day was included in a particular billing month. These weighted heating degree days and cooling degree days were divided by the total billing cycle days to arrive at average heating degree days and cooling degree days for a billing month.

Q. What was your source of economic and demographic data?

A. Historical economic and demographic variables for the six-county New Mexico service territory, the state of New Mexico, and the nation were obtained from IHS Markit Ltd. ("IHS Markit").[7] The variables used in the models were service territory non-farm employment, population, and real personal income per household. This information is used to determine the historical relationship between customers and sales measures, and economic and demographic measures.

Q. Please describe the regression models and associated analyses used in SPS's weather normalization process.

A. The formulae in the regression models and associated statistics used in SPS's weather normalization process are provided in Attachment JMG-1. Specifically,

[7] IHS Markit is a well-known provider of economic forecast information frequently relied on by energy forecasting professionals.

Attachment JMG-1 shows, by customer class or major rate group, the formulae in the regression models with their summary statistics and descriptions for each variable included in the model.

Q. What techniques did SPS employ to evaluate the validity of its regression models?

A. A number of quantitative and qualitative validity tests are applicable to multiple regression analyses. Several of the more common tests SPS uses are as follows:

First, the coefficient of determination ("R^2 statistic") test statistic is a measure of the quality of the model's fit to the historical data. It represents the proportion of the variation of the historical sales around their mean value that can be attributed to the functional relationship between the historical sales and the explanatory variables included in the model. If the R^2 statistic is high, the set of explanatory variables specified in the model are explaining a high degree of the historical sales variability. All regression models used to develop the weather normalization coefficients demonstrate R^2 statistics larger than 80%, which is satisfactory under this standard.

Second, the t-statistic of each variable indicates the degree of correlation between that variable's data series and the sales data series being modeled. The t-statistic is a measure of the statistical significance of each variable's individual

contribution to the prediction model. Generally, the absolute value of each t-statistic should be greater than 1.960 to be considered statistically significant at the 95% confidence level and greater than 1.645 to be considered statistically significant at the 90% confidence level. This criterion was applied in the development of the regression models used to develop the sales forecast. All variables in the final regression models used to develop the weather normalization coefficients tested satisfactorily at greater than a 90% confidence level.

Third, each model was inspected for the presence of first-order autocorrelation, as measured by the Durbin-Watson ("DW") test statistic. Autocorrelation refers to the correlation of the model's error terms for different time periods. For example, under the presence of first-order autocorrelation, an overestimate in one time period is likely to lead to an overestimate in the succeeding time period, and vice versa. Thus, when forecasting with a regression model, absence of autocorrelation between the error terms is very important. The DW test statistic ranges between 0.0 and 4.0, and provides a measure to test for autocorrelation. In the absence of first-order autocorrelation, the DW test statistic equals 2.0. Autoregressive correction terms were applied where appropriate so that the final regression models used to develop the weather normalization coefficients

tested satisfactorily for the absence of first-order autocorrelation, as measured by the DW test statistic.

Fourth, graphical inspection of each model's error terms (i.e., actual less predicted) was used to verify that the models were not misspecified and that statistical assumptions pertaining to constant variance among the residual terms and their random distribution with respect to the predictor variables were not violated. Analysis of each model's residuals indicated that the residuals were homoscedastic (constant variance) and randomly distributed, indicating that the linear regression modeling technique was an appropriate selection for each customer class' sales that were statistically modeled.

V. WEATHER'S EFFECT ON ADJUSTED BASE PERIOD SALES

Q. Did SPS calculate the effects on sales of abnormal weather for the Adjusted Base Period?

A. Yes. SPS performed weather normalization to ensure that its Adjusted Base Period sales and the present revenues calculated using those sales are adjusted to eliminate the effects of abnormal weather. The weather adjustments can either increase or decrease sales, depending on how actual weather differs from normal weather.

SPS calculated the effects of abnormal weather, as it has done in prior cases. The Base Period heating degree days were 12.4% below normal; the Base Period cooling degree days were 13.8% above normal; and the Base Period precipitation was 28.7% below normal. The percent difference from normal is calculated using the following formula:

(Actual weather – Normal weather) / Normal weather

The calculation of the percent difference from normal weather is shown on page 1 of Attachment JMG-2.

SPS calculated the effects on sales of abnormal weather during the Adjusted Base Period for the following customer classes:

- Residential Service;
- Residential Space Heating Service;

- Small General Service;
- Secondary General Service;
- Irrigation Service;
- Small Municipal and School Service; and
- Large Municipal and School Service.

SPS's research indicates that the weather has little or no effect on the consumption of the Primary General Service, Large General Service-Transmission, Street Lighting, and Area Lighting classes. Therefore, consistent with prior practice, SPS did not make weather adjustments for those classes.

Taken together, the weather deviations resulted in 5,829 MWh more being consumed in the Base Period than would have been consumed in the Base Period with normal weather, which amounts to 0.1% of total New Mexico retail sales. The calculation of the 0.1% appears on page 2 of Attachment JMG-2.

Q. How did SPS define the normal weather?

A. SPS used a 30-year average to define normal weather for purposes of this rate case. This aligns with NOAA's view that normal weather should be measured based on a 30-year period of time.

Q. What 30-year period did SPS use for weather normalization of sales?

A. SPS used actual weather data from January 1, 1991 through December 31, 2020.

Q. Did SPS include the Base Period in the 30-year period used to derive normal weather?

A. No. It is standard practice not to include the Base Period being normalized in the calculation of normal weather. Using actual weather data from the 12-month period used as the Base Period in the calculation of the "normal" weather may create a bias toward the actual Base Period weather, which would potentially misstate the variance of the Base Period weather from normal weather conditions. SPS applied this methodology for weather normalization adjustments in its most recent historical test year case, Case No. 20-00238-UT.[8] In addition, NOAA also excludes the current year's weather when calculating its 30-year normal weather statistics for purposes of comparing and analyzing the weather for a particular month.

Q. How did SPS determine the normal weather?

A. Normal daily weather was based on the average of the last 30 years of historical heating degree days, cooling degree days, and precipitation data used to develop the weather adjustment coefficients for the Base Period. The Base Period actual and normal cooling degree days, heating degree days, and precipitation are reflected on page 1 of Attachment JMG-2.

[8] *In the Matter of Southwestern Public Service Company's Application for: (1) Revision of its Retail Electric Rates Under Advice Notice No. 292; (2) Authorization and Approval to Abandon its Plant X Unit 3 Generating Station; and (3) Other Associated Relief,* Case No. 20-00238-UT, Final Order Adopting Certification of Stipulation (Feb. 16, 2022).

Q. What measure did SPS use to calculate heating degree days, cooling degree days, and precipitation?

A. SPS used heating degree days and cooling degree days based on a 65-degree Fahrenheit temperature base and rainfall equivalent precipitation measured in inches as reported by NOAA for Roswell, New Mexico.

Q. Please explain how SPS calculated heating degree days.

A. SPS calculated heating degree days for each day by subtracting the average daily temperature from 65 degrees Fahrenheit. For example, if the average daily temperature was 45 degrees Fahrenheit, then 20 heating degree days were calculated for that day. If the average daily temperature was greater than 65 degrees Fahrenheit, then that day recorded zero heating degree days. Daily heating degree days are aggregated to monthly totals.

Q. How did SPS calculate cooling degree days?

A. SPS calculated cooling degree days for each day by subtracting 65 degrees Fahrenheit from the average daily temperature. For example, if the average daily temperature was 75 degrees Fahrenheit, 10 cooling degree days were calculated for that day. If the average daily temperature was less than 65 degrees Fahrenheit, then that day recorded zero cooling degree days. Daily cooling degree days are aggregated to monthly totals.

Q. How was the Base Period weather adjustment calculated?

A. SPS calculated the weather adjustment using the deviation between normal and actual weather, customer counts, and weather adjustment coefficients that quantify the impact of a one-unit change in weather on sales per customer.

Q. How did SPS develop the weather adjustment coefficients used in the weather normalization of sales?

A. SPS developed the billing-month coefficients for each weather-sensitive class using econometric models.[9] SPS then converted the billing-month coefficients to a calendar-month basis by prorating the modeled weather coefficients based on the number of billing days in each billing month that occur in a particular calendar month. Page 4 of Attachment JMG-2 reflects the conversion of modeled weather coefficients to a calendar-month basis.

The data used in the models are:

- Historical billing-month sales by weather-sensitive class;
- Real personal income per household for the SPS New Mexico service territory;

[9] An econometric model is a widely accepted modeling approach in which a linear regression equation relates a dependent variable, such as sales, to a set of explanatory variables, such as economic and demographic concepts, customers, price, and weather. After the relationships are identified, forecasts of the explanatory variables can be used to predict future sales.

- Non-farm employment for the SPS New Mexico service territory;
- Weather (heating or cooling degree days);
- Seasonal binary variables;
- Precipitation variables;
- Customer counts;
- Number of billing days in each month;
- Population for the SPS New Mexico service territory;
- Other binary variables; and
- Autoregressive correction terms.

Q. How do the factors listed in the previous question affect sales?

A. Sales are expected to increase as each of the economic indicators increases and to decrease as each economic indicator decreases. For example, if personal income increases, electricity consumption will increase because customers have the means to purchase and use more electricity-consuming products. Likewise, as employment and population levels grow, electricity consumption is expected to increase.

The weather is also an independent variable that affects sales. The further the average daily temperature deviates from 65 degrees Fahrenheit, the more cooling degree days or heating degree days SPS will experience, which increases

electricity consumption. Similarly, SPS expects more sales to irrigation customers when there is little precipitation, and it expects fewer sales to irrigation customers when there is more precipitation. This impacts customers in the Irrigation Service and Municipal and School Services rate classes.

Q. Please explain the difference between "billing-month" sales and "calendar-month" sales.

A. SPS reads electric meters each working day according to a meter-reading schedule based on 21 billing cycles per billing month. Meters read early in the calendar month mostly reflect consumption that occurred during the previous calendar month. Meters read late in the calendar month mostly reflect consumption that occurred during the current calendar month. Consequently, the "billing-month" sales for the current calendar month reflect consumption that occurred in both the previous calendar month and the current calendar month. Thus, billing-month sales lag calendar-month sales. In order to determine the sales for a calendar month, SPS estimates "unbilled" sales, which is the electricity consumed in the current calendar month that is not billed to the customer until the succeeding calendar month.

Q. What is the purpose of estimating calendar-month sales?

A. Calendar-month sales are used to align the Base Period revenues with the relevant Base Period expenses, which are reported on a calendar-month basis. SPS reflects

calendar-month revenue on its books for accounting and financial reporting purposes.

Q. Why is it necessary to convert the billing-month coefficients to calendar-month coefficients?

A. Because the Base Period sales being weather normalized are calendar-month sales, the billing-month coefficients need to be converted to calendar-month coefficients. After the billing-month coefficients are developed through the econometric modeling process, the next step is to convert the billing-month coefficients to a coefficient that represents a calendar month. SPS determines the percentage of billing days for a calendar month that is billed in the current month and that is billed in a future month. The monthly billing-month coefficient is converted to a monthly calendar-month coefficient using these percentages.

Q. Please explain the steps you took to complete the weather-normalization calculation.

A. After calculating the calendar-month coefficients, I undertook a six-step process to calculate the effect on sales of weather variance from normal conditions during the Base Period. The numbers used as examples in the six steps recounted below appear on page 3 of Attachment JMG-2:

- Step 1 – I calculated the difference between the 30-year average heating degree days in a particular month and the heating degree days in that month of the Base Period. For example, the 30-year average number of heating degree days in February 2022 is 508, whereas the number of heating degree days in February of the Base Period was 648, for a difference of 140.

- Step 2 – I multiplied the difference calculated in Step 1 by the number of customers in each class. For example, the Residential Service class had 63,096 customers in February 2022, so I multiplied 140 by 63,096, for a total of 8,825,027, after accounting for rounding.

- Step 3 – I then multiplied the result from Step 2 by the heating degree day coefficient for that class to determine the number of MWh resulting from the abnormal weather. Multiplying 8,825,027 by the February 2022 coefficient for the Residential Service class, which is 0.0003262, yields 2,878 MWh.

- Step 4 – I then performed Steps 1-3 using the cooling degree data. For February 2022, that calculation results in 0 MWh.

- Step 5 – I netted the heating degree MWh against the cooling degree MWh for each class by month. That produces a total of 2,878 MWh for the Residential Service class for February 2022 (2,878 MWh + 0 MWh = 2,878 MWh).

- Step 6 – Finally, I totaled the number of MWh of all classes in each month, and then I added the monthly amounts to arrive at the 12-month total of 5,829 MWh attributable to abnormal weather. In other words, actual weather resulted in total Base Period retail sales being 5,829 MWh higher than if weather had been normal.

Q. How did SPS use the weather adjustments?

A. After calculating the weather adjustments by class, I supplied those sales adjustments to Mr. Luth, who used them to calculate present revenues. The

numbers that I provided to Mr. Luth are summarized on page 2 of Attachment JMG-2.

Q. Did SPS adjust its Texas retail sales during the Adjusted Base Period to account for the effects of abnormal weather on Texas retail sales?

A. Yes. SPS adjusted the Base Period sales for the weather-sensitive Texas retail classes using the same process described for New Mexico retail sales. These calculations are provided in Attachment JMG-3. SPS relied on NOAA weather data for the Texas Panhandle, using the weather stations in Amarillo and Lubbock, Texas. The weather data is aggregated to create the Texas Panhandle weather by weighting the individual weather station data by the share of load in the Amarillo and Lubbock regions of the Texas service area.[10]

Q. Did SPS adjust its firm wholesale sales during the Adjusted Base Period to account for the effects of abnormal weather on wholesale sales?

A. Yes. SPS adjusted the Base Period sales for SPS firm wholesale customers using weather adjustment coefficients developed for each wholesale customer and weather specific to the location of each wholesale customer. The weather adjustment coefficients for the wholesale customers were developed using

[10] The weight for Amarillo is approximately 0.745, and the weight for Lubbock is approximately 0.255.

historical calendar-month sales for each customer, weather variables (heating or cooling degree days or precipitation), and an economic indicator such as Gross State Product. Since the coefficients are based on calendar-month sales, there is no need to convert the coefficients from a billing-month basis to a calendar-month basis. Sales to the wholesale customers in New Mexico were weather normalized based on Roswell weather. The calculations of the weather adjustment for firm wholesale sales are provided in Attachment JMG-4. Please note that these customers moved to partial requirements in June 2022, so the calculated weather adjustments end in May 2022.

Q. Did SPS adjust its partial requirements wholesale sales during the Adjusted Base Period to account for the effects of abnormal weather on wholesale sales?

A. No. Sales to the partial requirements wholesale customers are not adjusted to account for the effects of abnormal weather. Since these sales are limited by the contracted demand, there is not a consistent response to weather for these customers.

Q. Why does SPS adjust its Texas retail sales and its firm wholesale sales for purposes of this New Mexico retail rate case?

A. Certain allocation factors SPS uses to allocate the components of the total company cost of service among its three rate jurisdictions depend on relative levels of sales

for each jurisdiction. Consequently, to ensure that the allocation percentages for each jurisdiction are determined on the same basis, it is necessary to adjust the sales in all three jurisdictions to account for the effects of abnormal weather on sales.

Q. Why does SPS use data from one weather station in New Mexico and two weather stations in Texas?

A. SPS uses these three weather stations because they are representative of SPS's service territory weather conditions. For example, based on annual 2021 sales, 66.3% of SPS's residential sales, which are most weather-sensitive, in Texas are to customers located in or around Randall County and Potter County, which include and surround Amarillo. Another 15.9% of SPS's weather-sensitive sales in Texas are to customers located in the counties immediately surrounding Lubbock. In addition, Roswell is a major population and economic center in the SPS New Mexico service territory, and is close to the geographic center of the SPS New Mexico service territory and, more specifically, close to the center of the weather sensitive loads.

VI. WEATHER'S EFFECT ON ADJUSTED BASE PERIOD PEAK DEMAND

Q. Did SPS calculate the effects of abnormal weather on its Base Period system peak demand?

A. Yes. Because weather varied from normal during the Base Period, it was necessary to adjust the Base Period coincident peak demand[11] to account for weather for the following customer groups:

- Total retail; and
- Aggregated full requirements wholesale at the transmission and production level.

For the same reason I explained in Section V of my testimony, I adjusted the peak demands in SPS's retail and full requirements wholesale rate jurisdictions to ensure that the allocation percentages for each jurisdiction are determined on the same basis for purposes of this rate case.

Q. Why does SPS not adjust the coincident peak demand for the partial requirements wholesale customers to account for the impact of abnormal weather?

A. The demand for partial requirements wholesale customers is a contracted amount, and therefore does not change due to weather.

[11] SPS does not weather-normalize non-coincident peak demands.

Q. What source of weather did SPS use to measure the adjustment?

A. SPS used a combination of peak day average daily temperature, peak day heating degree days, and accumulated precipitation for the week prior to the peak day to measure weather adjustments for peak demand. These weather values were calculated using weather data reported from the NOAA weather stations in Roswell, Amarillo, and Lubbock. The total SPS weather is an average of the Roswell, Amarillo, and Lubbock weather station data weighted by sales associated with the respective regions of the SPS service area.[12]

Q. How did SPS calculate average peak day temperature?

A. The peak day average temperature was calculated by adding the peak day maximum daily temperature and peak day minimum daily temperature, and then by dividing that amount by 2. For example, if the peak day maximum temperature was 55 degrees Fahrenheit and the peak day minimum temperature was 35 degrees Fahrenheit, the average peak day temperature would be 45 degrees Fahrenheit.

Q. Please explain how SPS calculated the peak day heating degree days.

A. SPS calculated peak day heating degree days by subtracting the peak day average temperature from 65 degrees Fahrenheit. For example, if the peak day average

[12] The weight for Amarillo is approximately 0.563, the weight for Lubbock is approximately 0.194, and the weight for Roswell is approximately 0.243.

daily temperature was 45 degrees Fahrenheit, then 20 heating degree days were calculated for that day. If the average peak day temperature was greater than 65 degrees Fahrenheit, then that peak day recorded zero heating degree days.

Q. How did SPS calculate precipitation?

A. SPS calculated the accumulation of water equivalent precipitation for the seven days prior to the peak day, measured in inches.

Q. How did SPS define the normal weather?

A. As noted earlier, SPS agrees with NOAA's definition that normal weather is representative of typical weather based on a 30-year period. The normal peak day weather was based on the average of the 30-year period from January 1991 to December 2020 for the peak day of each month for historical average daily temperature, heating degree days, and precipitation. The Base Period and normal weather for average temperatures, heating degree days, and precipitation are summarized on page 1 of Attachment JMG-5.

Q. How was the Base Period weather adjustment calculated?

A. SPS calculated the peak demand weather adjustment using the deviation between normal and actual weather and weather adjustment coefficients that quantify the

impact of a one-unit change in weather on retail and full requirements wholesale peak demand.

Q. How did SPS calculate the coefficients used in the peak demand weather normalization calculations?

A. SPS developed the peak demand weather coefficients for the retail coincident peak demand and full requirements wholesale coincident peak demand, at the transmission level, using econometric models. The data used in the models include historical peak demand and sales for each customer group, as well as the weather concept variables (average temperature, heating degree days, and precipitation for the week prior to the peak day). Each regression model also has an autoregressive error correction term variable. The weather coefficients for the full requirements wholesale peak demand at the production level are derived by allocating the transmission level coefficients to the production level peaks.

Q. What dependent variables does SPS use in the regression models?

A. The dependent variables used to develop peak demand weather coefficients are the monthly coincident peak demands for each customer class. The first explanatory variable in each regression model is a 12-month moving average for the respective sales for each customer class. The next set of explanatory variables in each regression model uses the following weather concept variables:

- average peak day temperature;
- peak day heating degree days; and
- the accumulation of precipitation for the seven days prior to the peak day of each month.

Q. How did the Base Period peak day weather for the June through September period compare to normal weather?

A. For retail customers, average peak day temperatures were hotter than normal in June, August, and September, and cooler than normal in July. Accumulated precipitation was less than normal in July and August and greater than normal in June and September. As shown on page 2 of Attachment JMG-5, taken together these weather deviations resulted in an average of -4 MW, or 0.1%, fewer retail peak demand per month. For full-requirements wholesale customers, average peak day temperatures were hotter than normal in August and September, and cooler than normal in July. Accumulated precipitation was less than normal in July and August and greater than normal in September. Taken together, these weather deviations resulted in an average of 5 MW, or 1.5%, less full requirements wholesale peak demand per month at the transmission level and 4 MW, or 1.9% less full requirements wholesale peak demand at the production level from June, July, August, and September in the Base Period compared to normal weather. Note

again that the full requirements customers moved to partial requirements after May 2022, so no weather adjustment was made for June 2022. Because weather affected the level of peak demand, SPS adjusted the Base Period peak demand for deviations of the actual Base Period weather from the 30-year average weather.

Q. Please explain the steps you went through to complete the peak demand weather-normalization calculation.

A. I undertook a four-step process to calculate the effect on peak demand of weather variance from the normal conditions during the Base Period. The numbers used as examples in the four steps recounted below are for the retail peak demand and appear on page 3 of Attachment JMG-5:

- Step 1 – I calculated the difference between: (i) the normal weather concepts (as measured in peak day average temperature, peak day heating degree days, and precipitation) in a particular month, and (ii) the actual weather concepts in that month of the Base Period. For example, for the retail peak demand, the normal peak day average temperature in August is 83.5 degrees Fahrenheit, whereas the actual peak day average temperature in August of the Base Period was 85.7 degrees Fahrenheit, a difference of 2.2 degrees Fahrenheit. This step is repeated for each weather concept. The normal precipitation for the week preceding the peak day in August is 0.50 of an inch of precipitation, whereas the actual precipitation for the week preceding the peak day in August of the Base Period was 0.01 of an inch, for a difference of -0.49 of an inch of precipitation. The normal heating degree days on the peak day in August is 0.0, and the actual peak day heating degree days in August of the Base Period was also 0.0, resulting in no difference from normal.

- Step 2 – The variance in weather from the normal from Step 1 for each weather concept is multiplied by the respective weather adjustment coefficient to determine the number of MW resulting from the variance in actual weather from the normal weather. Weather adjustment coefficients are developed with econometric models using the same methodology described earlier. To continue with the retail peak demand example from Step 1, multiplying the variance in peak day average temperature of 2.2 degrees Fahrenheit by the August coefficient for average peak day temperature, which is 12.26, yields 27 MW. This step is repeated for each weather concept. Multiplying the variance in precipitation of -0.49 by the August precipitation coefficient, which is -65.94, yields 33 MW. Because there is no weather adjustment coefficient in July for heating degree days, this weather concept does not have a weather adjustment in July.

- Step 3 – For each month, I summed the weather adjustments calculated in Step 2 from each weather concept. Continuing with the example from Step 1 and Step 2, this step produces a total weather adjustment of 59 MW for the total retail peak demand for August (27 MW + 33 MW = 60 MW). In other words, weather normalized peak demand for July is 60 MW lower than the actual peak demand.

- Step 4 – Finally, I averaged the weather adjusted MW for the summer months of the Base Period to arrive at a 4-month average of weather's impact on the peak demand. Continuing with the example from the previous steps, the average weather adjustment for the retail peak demand for the four months of June, July, August, and September of the Base Period was -4 MW per month. Using the same methodology described in Step 1 through Step 4, the average weather adjustment for the full requirements wholesale peak demand for the four months of June, July, August, and September of the Base Period was (5) MW per month. Pages 3, 4, and 5 of Attachment JMG-4 contain the weather adjustment calculations for the retail peak demand and the full requirements wholesale peak demand at the transmission and production level.

Q. Did SPS calculate the effect of weather on the Golden Spread full load peak demand coincident with the SPS system peak demand?

A. Yes. I calculated the effect of weather on the Golden Spread full load peak demand coincident with the SPS system peak demand using the same methodology previously described for weather adjusting the retail and full requirements wholesale peak demand. The weather values used to adjust the Golden Spread full load peak demand were calculated for the Texas Panhandle region. As I explained earlier, the Texas Panhandle weather is an average of the Amarillo and Lubbock weather station data weighted by sales associated with the respective regions of the SPS service area located in Texas. The peak demand weather coefficients for Golden Spread were developed using an econometric model. The data used in the model includes historical peak demand for Golden Spread, as well as the weather concept variables for average temperature and accumulated precipitation for the week prior to the peak day, and an autoregressive error correction term variable. For the Texas Panhandle, average peak day temperatures were hotter than normal in June, August, and September and cooler than normal in July. Accumulated precipitation was less than normal in July and August and greater than normal in July and September.

Q. What is the weather adjustment for the Golden Spread full load peak demand coincident with the SPS system peak demand for the Base Period?

A. As shown on page 2 of Attachment JMG-5, the average weather adjustment for the Golden Spread full load peak demand coincident with the SPS system peak demand for the four months of June, July, August, and September of the Base Period was -4 MW per month. In other words, Golden Spread's actual peak demand was 4 MW lower than the weather normalized peak demand. Page 6 of Attachment JMG-5 provides the weather adjustment calculation for the Golden Spread full load peak demand.

Q. Why does SPS adjust its system retail peak demand and its firm wholesale peak demand for purposes of this New Mexico retail rate case?

A. Certain allocation factors SPS uses to allocate system production and transmission capacity costs among its three rate jurisdictions depend on relative levels of peak demand for each jurisdiction. Consequently, to ensure that the allocation percentages for each jurisdiction are determined on the same basis, it is necessary to adjust the peak demands in all three jurisdictions to account for the effects of abnormal weather.

Q. How did SPS use the weather-adjusted peak demand figures?

A. After calculating the weather adjustments for peak demand by customer class, I supplied those peak demand adjustments to Mr. Luth, who used them to calculate the class allocation of production and transmission capacity costs among classes. The numbers that I provided to Mr. Luth are on page 2 of Attachment JMG-5.

VII. FORECAST DEVELOPMENT

A. Data Preparation

Q. Please briefly describe SPS's methodology for forecasting retail customers, sales, and peak demands.

A. Preparation of the electric sales and customer forecast utilizes econometric forecasting techniques and statistical analyses. The primary forecasting technique used is regression modeling. Regression models are designed to identify and quantify the statistical relationship between historical sales or customers and a set of independent predictor variables, such as historical economic and demographic indicators, historical electricity prices, or historical weather. Once this relationship is defined, a forecast is developed by simulating the relationship over the forecast period using projected levels of the independent predictor variables. Regression modeling is a well-known and proven method of forecasting, and is commonly accepted by forecasters and regulators throughout the utility industry. This method provides reliable, accurate projections, accommodates the use of predictor variables, such as economic or demographic indicators and weather, and allows clear interpretation of the model. SPS has been using regression models to forecast MWh sales and customers for over 20 years.

Q. Please describe the data and data sources SPS relied on to develop the Future Test Year sales and customer forecasts.

A. Historical monthly billing-month sales and monthly number of customers by rate class were obtained from SPS billing system reports.

Q. Did you make any adjustments to the forecast model results for the FutureTest Year?

A. Yes, I made several adjustments to the forecast model results. First, the forecast models are based on billing-month sales. The billing-month sales are converted to calendar-month sales to align Future Test Year revenues with the relevant projected Future Test Year expenses, which have been estimated on a calendar-month basis. The process to convert billing-month sales to calendar-month sales is described later in my testimony.

Next, the Residential and C&I sales forecast model results were adjusted to reflect the expected incremental impact of Demand Side management ("DSM") programs. An annual forecast of the expected impact of DSM programs (excluding Saver's Switch) is developed by XES's DSM Regulatory Strategy and Planning Department.

The Large C&I sales forecast model results were also adjusted to include new load growth as identified by SPS account managers for load changes that would not be embedded in the historical sales data. These load changes include expected additions for oil and gas production activity in southeast New Mexico. The new load growth projections were developed in mid-2022. These projections do not include recent inquiries SPS has received from potential high energy use customers who have not executed electric service agreements, which are referenced in the testimony of Mr. Ben R. Elsey.

Finally, the Residential and Small C&I models were adjusted for increased penetration of distributed solar, and the Residential and C&I models were adjusted for the expected adoption of electric vehicles. Attachment JMG-6 shows the forecast adjustments for new load, DSM, distributed solar, and electric vehicles.

Q. Is the forecast methodology you used to develop the sales and customer forecast the same methodology SPS has utilized in the past?

A. Yes, the methodology used for the forecast is the same methodology SPS has utilized in the past.

Q. What measure of weather did SPS use for the forecasts?

A. As discussed above, SPS used heating-degree days and cooling-degree days based on a 65-degree Fahrenheit temperature base as well as precipitation.

Q. Did the weather reflect the same billing days as the sales data?

A. Yes. The heating-degree days, cooling-degree days, and precipitation amounts were weighted by the number of times a particular day was included in a particular billing month. These weighted heating-degree days, cooling-degree days, and precipitation amounts were divided by the total billing cycle days to arrive at average heating-degree days, cooling-degree days, and precipitation amounts for a billing month. The work paper for Schedule P-6 provides the historical data and the calculations applied to develop the weather variables used for the forecasts.

Q. What weather assumption was used for the Future Test Year?

A. Normal weather was used for the Future Test Year, where normal is defined as a 30-year rolling average of historical values. Daily normal heating-degree days, cooling-degree days, or precipitation amounts were calculated by averaging 30 years of daily heating-degree days, cooling-degree days, or precipitation amounts using data from 2002 to 2021. These daily normal heating-degree days, cooling-degree days, and precipitation amounts were weighted by billing cycle information to derive normal billing-month heating-degree days, cooling-degree days, and

precipitation amounts in the same manner as were the historical actual heating-degree days, cooling-degree days, and precipitation amounts.

Q. What was your source of economic and demographic data?

A. Historical and forecasted economic and demographic variables for the six-county SPS service territory in New Mexico, the state of New Mexico, and the nation were obtained from IHS Markit. The variables used in the models were service territory non-farm employment, population, households, and real personal income; New Mexico real Gross County Product; and U.S. real Gross Domestic Product and the Industrial Production Index for oil and gas extraction. This information is used to determine the historical relationship between customers and sales measures, and economic and demographic measures.

Q. Did you use similar data used to develop the Texas retail sales forecast?

A. Yes. The Texas retail sales forecast was developed based on historical monthly billing-month sales and monthly number of customers by rate class that were obtained from SPS billing system reports. Weather data from the Amarillo and Lubbock weather stations were used to represent SPS's Texas service territory. Economic data for the counties in SPS's Texas service territory, the state of Texas, and the nation were also used.

Q. What data did you use to develop the wholesale sales and demand forecast?

A. The sales forecasts for SPS's firm partial requirements sales and demands are based on contract terms.

Q. How is SPS's retail peak demand forecast developed?

A. SPS develops the retail peak demand forecast using an econometric model, with monthly historical system retail peak demand (MW) as the dependent variable, and system retail sales, weather concepts, and month specific binary variables as explanatory variables.

B. Statistically Modeled Forecasts

Q. Please briefly describe SPS's methodology for forecasting Future Test Year customer, sales, and demand values.

A. SPS forecasts monthly customer counts, retail sales and retail peak demand using econometric forecasting models.

Q. Please describe the regression models and associated analyses used in SPS's statistical projections of sales and customers.

A. The formulae in the regression models and associated statistics used in SPS's projections of New Mexico sales and customers are provided in Attachment JMG-7. Specifically, Attachment JMG-7 shows, by customer class or major rate

class, the formulae in the regression models with their summary statistics and output and descriptions for each variable included in the model.

Q. Did SPS employ the same techniques to evaluate the validity of its quantitative forecasting models and sales projections as discussed above in Section IV?

A. Yes. As discussed above, SPS uses a number of quantitative and qualitative tests to evaluate the validity of its models and projections.

Q. Does SPS's forecasting methodology reflect current economic conditions?

A. Yes. SPS's forecast relies upon the analysis of relationships between sales and several explanatory variables, such as weather and economic indicators. These relationships and their ultimate explanatory power have been tested and are viable, as described above. The forecast was prepared in July 2022 and includes the most up-to-date economic information available at that time. The Linkage Period and Future Test Year customer and sales forecasts are consistent with IHS Markit's current economic outlook.

Q. Are the models you used to prepare the forecasts discussed in your testimony provided in a fully functioning electronic format?

A. No. The forecasts were prepared using MetrixND, Itron's proprietary modeling software. Under Itron's terms-of-use, SPS is prohibited from sharing the software

with third parties. However, SPS will re-run the models for input changes as reasonably required by Commission Staff and Intervenors.

C. Calendar-Month Sales Derivation

Q. Please explain the terms "billing-month" sales and "calendar-month" sales.

A. SPS reads electric meters each working day according to a meter-reading schedule based on 21 billing cycles per billing month. Meters read early in the calendar month reflect consumption that occurred mostly during the previous calendar month. Meters read late in the calendar month reflect consumption that occurred mostly during the current calendar month. Because the "billing-month" sales for the current calendar month reflect consumption that occurred in both the previous calendar month and the current calendar month, billing-month sales lag calendar-month sales. The "calendar-month" sales number is, therefore, an estimate of electricity consumption that occurred during the current calendar month.

Q. What is the purpose of developing a calendar-month sales forecast?

A. The purpose is to align the Future Test Year revenues with the relevant projected Future Test Year expenses, which have been estimated on a calendar-month basis.

Q. Does SPS reflect calendar-month revenue on its books for accounting and financial reporting purposes?

A. Yes.

Q. How did SPS determine the estimated monthly calendar-month sales?

A. SPS calculated the Future Test Year calendar-month sales for the Residential, Small General Service, Secondary General, Irrigation Power Service, and Municipal and School Service classes based on the projected billing-month sales. The Future Test Year calendar-month sales were calculated in terms of the sales load component that is not associated with weather (i.e., "base load"), and the sales load component that is influenced by weather (i.e., "total weather load"). The weather was measured in terms of normal heating degree days, cooling degree days, and precipitation amounts as described earlier. SPS calculated the base-load sales and the total weather load sales components for each class, and the two components were then combined to provide the total calendar-month volumes.

Q. How did SPS calculate the calendar-month base-load component?

A. SPS calculated the calendar-month base-load component using the following four steps:

Step 1 - SPS calculated the billing-month total weather load by multiplying the billing-month sales weather normalization regression coefficients (defined in terms of billing-month heating degree days, cooling degree days, precipitation amounts, and number of customers), times billing-month normal heating degree days, cooling degree days, and precipitation amounts, and then multiplying the product by the projected customers.

Step 2 - SPS calculated the billing-month base-load sales by taking the difference between the projected total billing-month sales and the billing-month total weather load (as calculated in Step 1).

Step 3 - SPS next determined the billing-month base-load sales per billing day by dividing the billing-month base-load sales (from Step 2) by the average number of billing days per billing month.

Step 4 - SPS then calculated the calendar-month base-load sales by multiplying the billing-month base-load sales per billing day (from Step 3) times the number of days in the calendar month.

Q. How did SPS calculate the calendar-month total weather load component?

A. SPS calculated the calendar-month total weather load component in the same way it calculated the billing-month total weather load (as described in Step 1 above). However, SPS performed the calculation by substituting the calendar-month sales weather normalization regression coefficient (defined in terms of calendar-month heating degree days, cooling degree days, precipitation amounts, and number of customers) and the calendar-month normal heating degree days, cooling degree days, and precipitation amounts.

Q. How did SPS calculate the calendar-month total sales?

A. SPS calculated the calendar-month total sales by combining the calendar-month base load and calendar-month total weather load components. For the Area Lighting, Primary General, and Large General Service Transmission classes, SPS calculated the Future Test Year calendar-month sales simply based on the projected billing-month sales in the same manner as detailed above. However, for these classes, there are no total weather load sales. The Future Test Year calendar-month total sales for these classes were calculated only in terms of their projected billing-month sales.

The Street Lighting class is billed on a calendar-month basis in the succeeding month. Therefore, for this class, the calendar-month sales equal the billing-month sales in the succeeding month.

VIII. CUSTOMER AND SALES TRENDS AND FORECASTS

Q. Please discuss SPS's New Mexico historical retail customer and MWh sales growth trends.

A. The total number of retail electric customers in SPS's New Mexico service territory averaged 125,769 per month during the Base Period. Total retail customer counts increased an average of 991 customers per year from 2016 through 2021, for an annual average growth rate of 0.8% per year. The largest class of customers is Residential, which averaged 98,977 customers per month during the Base Period. Residential customer counts averaged an annual growth rate of 0.7%, or 706 additions per year during the period from 2016 through 2021.

SPS's New Mexico weather normalized retail electric sales have increased at an average annual rate of 8.2% during that time period. Residential weather normalized sales have averaged growth of 0.9%, while Small C&I weather-normalized sales have increased at an average annual rate of 4.9% and Large C&I weather normalized sales have increased at an average annual rate of 12.9% over this same period of time. Although the average growth rate for total retail sales during this historical period is 8.2% per year, the growth has varied in individual

years. The average annual percent change in customers and MWh sales by customer class during the period of 2016 through 2021 is presented in Table JMG-1.

Table JMG-1
Historical Customer and Sales Growth by Major Customer Class

	Average Annual Growth, 2016-2021		Percent of
	WN sales	Customers	2021 Sales
Residential	0.9%	0.7%	14.6%
Small C&I	4.9%	1.1%	25.2%
Large C&I	12.9%	12.7%	58.4%
Streetlighting	-11.4%	-1.1%	0.1%
Other Publc Authority	-0.3%	0.2%	1.6%
Total Retail	8.2%	0.8%	100.0%

Q. Why did you choose the 2016 through 2021 period of time to describe historical growth trends?

A. The most recent 5 years, 2016 through 2021, are a good representation of the growth we expect to see through the Future Test Year. This period was marked by a significant expansion in the oil and gas industry in southeast New Mexico. Each year showed robust growth, particularly in the C&I classes. Total retail sales exhibited double digit growth in 2018 and 2019, before slowing to 3.9% in 2020 due to impacts of the COVID-19 pandemic and rebounding to 8.3% in 2021. Sales

growth is expected to continue to remain strong in the Linkage Period and Future Test Year.

Q. Please explain what you mean by "weather normalized" sales.

A. To calculate sales growth from year to year not influenced by weather, SPS removes the estimated MWh impact of deviation from normal weather from actual sales, or "weather normalizes" sales. If weather is hotter than normal in the summer, the normalization process results in weather-normalized sales that are lower than actual sales. Conversely, if weather is warmer than normal in the winter, the normalization process results in weather-normalized sales that are higher than actual sales. Although historical sales have been weather-normalized to assess historical growth trends within this testimony, the actual Base Period sales reported in Schedule P-5 in this filing have not been weather-normalized.

Q. Did SPS create retail customer, retail sales, and peak demand forecasts for the Linkage Period and Future Test Year?

A. Yes. SPS developed forecasts for New Mexico and Texas retail sales, retail peak demand, and demand for Golden Spread for the Linkage Period and Future Test Year. These forecasts, as well as the forecasts for wholesale customers, are provided in Attachment JMG-8 and Attachment JMG-9.

Q. How were the forecasts for wholesale customers developed?

A. Wholesale customers moved from full requirements to partial requirements in June 2022. Therefore, the forecasts for the Linkage Period and Future Test Year are fixed at the contracted amount for these customers.

Q. Please summarize the New Mexico retail customer and sales forecasts.

A. Linkage Period retail sales in the New Mexico territory are expected to increase 600,686 MWh, or 7.1%, when compared to the weather-adjusted Base Period sales. Growth is led by the Large C&I (498,622 MWh) and Small C&I (109,355 MWh) classes, driven by the expansion of the oil and gas industry in southeast New Mexico. The Residential and Streetlighting classes are expected to decline slightly and there are expected to be small increases in Other Public Authority.

Future Test Year retail sales in the New Mexico territory are expected to increase 844,703 MWh, or 9.4%, when compared to the Linkage Period sales. Growth is led by the Large C&I (765,291 MWh) and Small C&I (78,313 MWh) classes, driven by the continued expansion of the oil and gas industry in southeast New Mexico. The Residential and Streetlighting classes are expected to increase slightly, and Other Public Authority is expected to decline during the Future Test Year.

Q. How does the Future Test Year electric customer growth compare to historical customer growth?

A. As I stated earlier, New Mexico retail electric customer counts increased at an average annual rate of 0.8% from 2016 through 2021, or 991 customers per year. During the Base Period, average customer counts increased at an annual rate of 1.0%, or 1,267 customers per year. Customers are expected to increase at an annual rate of 0.9% or 1,134 customers during the Linkage Period. During the Future Test Year, the total number of electric customers is expected to increase by an additional 1.1%, or 1,355 customers, compared to expected average customer levels for the prior 12-month period.

Q. How does the Future Test Year retail electric sales growth forecast compare to historical electric sales growth?

A. Table JMG-2 (next page) provides the New Mexico weather-normalized retail MWh sales growth rates for the Base Period, Linkage Period, and Future Test Year, as well as the average annual growth rate for the 2016-2021 time period.

Table JMG-2

Retail Sales Growth by Major Customer Class

WN Sales Growth by Class				
	2016-2021	Base Period	Linkage Period	Future Test Year
Residential	0.9%	-0.9%	-0.7%	0.2%
Small C&I	4.9%	16.0%	5.1%	3.5%
Large C&I	12.9%	17.9%	10.0%	13.9%
Streetlighting	-11.4%	-27.0%	-0.2%	0.0%
Other Publc Authority	-0.3%	7.2%	0.6%	-1.0%
Total Retail	8.2%	14.2%	7.1%	9.4%

Q. Please describe the forecasts for SPS's Texas retail jurisdiction and system peak demand.

A. SPS's Texas retail jurisdiction sales are expected to increase 3.8% during the Linkage Period and 2.7% during the Future Test Year. Average retail peak demand for the months of June through September is expected to increase 4.4% during the Linkage Period and the Future Test Year expected to be 4.7% higher than the Linkage Period.

Q. How are the Future Test Year customer and sales forecasts used in this proceeding?

A. With the exception of one type of customer, the customer and sales forecasts are used to calculate the following information: (a) the monthly and annual electric supply requirements; (b) Future Test Year revenue under present rates; and (c)

Future Test Year revenue under proposed rates. The one exception relates to the customer counts for lighting customers. Mr. Luth utilizes all of the MWh forecasts and the customer counts that I provide for his revenue calculations other than the customer counts for the lighting customers (Street Lighting and Area Lighting). For lighting customers, it is necessary for Mr. Luth to determine the individual number of lights being billed. My counts, however, reflect the number of customers with lights, who may have a single light or multiple lights at one customer location.

IX. RATE SHEET FORECAST

Q. What is a rate sheet level forecast?

A. A rate sheet level forecast is a forecast for a particular rate sheet, or tariff, within a customer class.

Q. How is the rate sheet level forecast derived from the customer class level forecast?

A. For all classes, after the class level sales and customer forecasts are completed, the rate sheet level forecasts are developed. Monthly rate sheet sales allocation factors are developed based on historical rate sheet level sales data. The allocation factors are then applied to the class level sales forecasts to derive the rate sheet level sales forecasts. Rate sheet customer allocation factors are developed based on year-end customer counts from the most recent year. The rate sheet customer allocation factors are then applied to the class level customer count forecasts to derive the rate sheet level customer count forecasts. I provided this rate sheet level detail to Mr. Luth for use in the class cost of service study as well as in the rate design.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR: (1) REVISION OF ITS RETAIL RATES UNDER ADVICE NOTICE NO. 312; (2) AUTHORITY TO ABANDON THE PLANT X UNIT 1, PLANT X UNIT 2, AND CUNNINGHAM UNIT 1 GENERATING STATIONS AND AMEND THE ABANDONMENT DATE OF THE TOLK GENERATING STATION; AND (3) OTHER ASSOCIATED RELIEF,	)	**CASE NO. 22-00286-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

VERIFICATION

On this day, November 18, 2022, I, John M. Goodenough, swear and affirm under penalty of perjury under the law of the State of New Mexico, that my testimony contained in Direct Testimony of John M. Goodenough is true and correct.

/s/ John M. Goodenough
JOHN M. GOODENOUGH

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

Roswell Weather Data
Normal Weather Based on a 30-year Historical Average

Month	Year	Date	Weather Act Cal HDD65	Weather Act Cal CDD65	Weather Act Cal Precip	Weather Norm Cal HDD65	Weather Norm Cal CDD65	Weather Norm Cal Precip	Dev HDD65	Dev CDD65	Dev Precip
Jul	2021	Jul-21	0	448	2.65	0	537	1.78	0	-89	0.87
Aug	2021	Aug-21	0	474	0.70	0	488	1.68	0	-14	-0.98
Sep	2021	Sep-21	3	351	1.16	10	266	1.54	-7	85	-0.38
Oct	2021	Oct-21	61	85	0.14	138	57	1.33	-77	28	-1.19
Nov	2021	Nov-21	335	0	0.00	448	1	0.45	-113	-1	-0.45
Dec	2021	Dec-21	442	1	0.06	727	0	0.56	-285	1	-0.50
Jan	2022	Jan-22	746	0	0.03	721	0	0.36	25	0	-0.33
Feb	2022	Feb-22	648	0	0.04	508	0	0.35	140	0	-0.31
Mar	2022	Mar-22	366	10	0.33	336	6	0.53	30	4	-0.20
Apr	2022	Apr-22	58	105	0.00	134	51	0.57	-76	54	-0.57
May	2022	May-22	8	360	0.02	23	221	1.14	-15	139	-1.12
Jun	2022	Jun-22	0	539	3.11	0	457	1.28	0	82	1.83
Annual			**2,667**	**2,373**	**8.24**	**3,045**	**2,085**	**11.57**	**-378**	**289**	**-3.32**
Annual Dev %									**-12.4%**	**13.8%**	**-28.7%**

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Rate Case HTY - Calendar Month Weather Normal Sales
30-Year Normal Weather

Calendar Month - MONTHLY MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-21	107,688	181,805	412,772	577	13,761	716,603	115,976	185,668	412,774	577	14,164	729,159
Aug-21	116,473	187,922	403,783	574	11,751	720,503	117,743	187,599	403,783	574	11,839	721,538
Sep-21	94,018	180,042	406,162	561	13,730	694,513	87,946	177,400	406,161	561	12,688	684,756
Oct-21	76,496	166,765	426,561	553	10,222	680,599	76,277	166,461	426,561	553	9,989	679,841
Nov-21	72,096	159,079	396,576	541	8,236	636,529	75,874	159,195	396,576	541	8,236	640,423
Dec-21	94,768	160,756	416,808	540	10,754	683,627	111,883	161,524	416,808	540	10,754	701,509
Jan-22	122,005	180,410	435,527	540	8,759	747,240	120,306	180,319	435,527	540	8,757	745,448
Feb-22	107,939	147,405	385,836	536	8,686	650,403	99,843	146,645	385,836	536	8,590	641,450
Mar-22	92,183	181,583	386,471	545	11,060	671,842	91,129	181,158	386,471	545	10,952	670,255
Apr-22	66,097	169,073	446,216	550	10,604	692,540	66,630	168,342	446,216	550	10,372	692,111
May-22	88,048	209,489	444,785	549	12,690	755,561	82,419	206,645	444,785	549	11,967	746,364
Jun-22	118,722	211,128	444,933	548	13,903	789,233	111,960	209,272	444,932	548	13,797	780,509
Total	**1,156,534**	**2,135,458**	**5,006,431**	**6,614**	**134,156**	**8,439,192**	**1,157,987**	**2,130,227**	**5,006,431**	**6,614**	**132,106**	**8,433,363**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-21	107,688	181,805	412,772	577	13,761	716,603	115,976	185,668	412,774	577	14,164	729,159
Aug-21	224,161	369,727	816,555	1,151	25,511	1,437,106	233,719	373,267	816,557	1,151	26,003	1,450,697
Sep-21	318,180	549,769	1,222,717	1,712	39,241	2,131,619	321,665	550,667	1,222,718	1,712	38,691	2,135,453
Oct-21	394,676	716,534	1,649,279	2,265	49,463	2,812,217	397,942	717,128	1,649,279	2,265	48,680	2,815,294
Nov-21	466,773	875,613	2,045,855	2,807	57,700	3,448,747	473,817	876,322	2,045,855	2,807	56,916	3,455,717
Dec-21	561,541	1,036,370	2,462,663	3,347	68,454	4,132,374	585,700	1,037,847	2,462,663	3,347	67,670	4,157,227
Jan-22	683,546	1,216,780	2,898,190	3,886	77,212	4,879,614	706,005	1,218,165	2,898,190	3,886	76,428	4,902,675
Feb-22	791,485	1,364,185	3,284,026	4,422	85,899	5,530,017	805,849	1,364,810	3,284,026	4,422	85,018	5,544,125
Mar-22	883,668	1,545,768	3,670,497	4,967	96,958	6,201,859	896,978	1,545,968	3,670,498	4,967	95,969	6,214,380
Apr-22	949,765	1,714,842	4,116,713	5,517	107,562	6,894,399	963,608	1,714,310	4,116,713	5,517	106,342	6,906,491
May-22	1,037,813	1,924,330	4,561,498	6,066	120,253	7,649,959	1,046,027	1,920,955	4,561,498	6,066	118,309	7,652,855
Jun-22	**1,156,534**	**2,135,458**	**5,006,431**	**6,614**	**134,156**	**8,439,192**	**1,157,987**	**2,130,227**	**5,006,431**	**6,614**	**132,106**	**8,433,363**

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Rate Case HTY - Calendar Month Weather Normal Sales
30-Year Normal Weather

Calendar Month - MONTHLY MWH

	Act var fr WN Res	Act var fr WN Small C&I	Act var fr WN Large C&I	Act var fr WN Street	Act var fr WN Other Sale Auth	Act var fr WN Retail	% var Res	% var Small C&I	% var Large C&I	% var Street	% var Other Sale Auth	% var Retail
Jul-21	(8,288)	(3,864)	(1)	0	(404)	(12,556)	-7.1%	-2.1%	0.0%	0.0%	-2.8%	-1.7%
Aug-21	(1,270)	323	(0)	0	(88)	(1,035)	-1.1%	0.2%	0.0%	0.0%	-0.7%	-0.1%
Sep-21	6,072	2,642	1	0	1,041	9,757	6.9%	1.5%	0.0%	0.0%	8.2%	1.4%
Oct-21	220	305	0	0	234	758	0.3%	0.2%	0.0%	0.0%	2.3%	0.1%
Nov-21	(3,778)	(116)	0	0	0	(3,894)	-5.0%	-0.1%	0.0%	0.0%	0.0%	-0.6%
Dec-21	(17,114)	(768)	0	0	0	(17,882)	-15.3%	-0.5%	0.0%	0.0%	0.0%	-2.5%
Jan-22	1,699	92	0	0	1	1,792	1.4%	0.1%	0.0%	0.0%	0.0%	0.2%
Feb-22	8,096	761	0	0	97	8,953	8.1%	0.5%	0.0%	0.0%	1.1%	1.4%
Mar-22	1,054	425	0	0	108	1,587	1.2%	0.2%	0.0%	0.0%	1.0%	0.2%
Apr-22	(534)	731	0	0	231	429	-0.8%	0.4%	0.0%	0.0%	2.2%	0.1%
May-22	5,629	2,844	0	0	723	9,196	6.8%	1.4%	0.0%	0.0%	6.0%	1.2%
Jun-22	6,762	1,856	0	0	107	8,724	6.0%	0.9%	0.0%	0.0%	0.8%	1.1%
Total	**(1,453)**	**5,231**	**0**	**0**	**2,050**	**5,829**	**-0.1%**	**0.2%**	**0.0%**	**0.0%**	**1.6%**	**0.1%**

YEAR TO DATE MWH

	Act var fr WN Res	Act var fr WN Small C&I	Act var fr WN Large C&I	Act var fr WN Street	Act var fr WN Other Sale Auth	Act var fr WN Retail	% var Res	% var Small C&I	% var Large C&I	% var Street	% var Other Sale Auth	% var Retail
Jul-21	(8,288)	(3,864)	(1)	0	(404)	(12,556)	-7.1%	-2.1%	0.0%	0.0%	-2.8%	-1.7%
Aug-21	(9,558)	(3,540)	(1)	0	(492)	(13,591)	-4.1%	-0.9%	0.0%	0.0%	-1.9%	-0.9%
Sep-21	(3,486)	(898)	(0)	0	550	(3,835)	-1.1%	-0.2%	0.0%	0.0%	1.4%	-0.2%
Oct-21	(3,266)	(594)	(0)	0	783	(3,077)	-0.8%	-0.1%	0.0%	0.0%	1.6%	-0.1%
Nov-21	(7,044)	(709)	(0)	0	783	(6,971)	-1.5%	-0.1%	0.0%	0.0%	1.4%	-0.2%
Dec-21	(24,159)	(1,477)	(0)	0	783	(24,853)	-4.1%	-0.1%	0.0%	0.0%	1.2%	-0.6%
Jan-22	(22,459)	(1,386)	(0)	0	785	(23,061)	-3.2%	-0.1%	0.0%	0.0%	1.0%	-0.5%
Feb-22	(14,364)	(625)	(0)	0	881	(14,108)	-1.8%	0.0%	0.0%	0.0%	1.0%	-0.3%
Mar-22	(13,310)	(200)	(0)	0	989	(12,521)	-1.5%	0.0%	0.0%	0.0%	1.0%	-0.2%
Apr-22	(13,844)	531	(0)	0	1,221	(12,092)	-1.4%	0.0%	0.0%	0.0%	1.1%	-0.2%
May-22	(8,214)	3,375	(0)	0	1,944	(2,896)	-0.8%	0.2%	0.0%	0.0%	1.6%	0.0%
Jun-22	**(1,453)**	**5,231**	**0**	**0**	**2,050**	**5,829**	**-0.1%**	**0.2%**	**0.0%**	**0.0%**	**1.6%**	**0.1%**

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Retail Weather Adjustment Summary													
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Heating Degree Days 30-yr normal	0	0	10	138	448	727	721	508	336	134	23	0	3,045
Heating Degree Days Actual	0	0	3	61	335	442	746	648	366	58	8	0	2,667
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)	(378)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Cooling Degree Days 30-yr normal	537	488	266	57	1	0	0	0	6	51	221	457	2,085
Cooling Degree Days Actual	448	474	351	85	0	1	0	0	10	105	360	539	2,373
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82	289
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Precipitation 30-yr normal	1.78	1.68	1.54	1.33	0.45	0.56	0.36	0.35	0.53	0.57	1.14	1.28	11.57
Precipitation Actual	2.65	0.70	1.16	0.14	0.00	0.06	0.03	0.04	0.33	0.00	0.02	3.11	8.24
Variance from Normal	0.87	(0.98)	(0.38)	(1.19)	(0.45)	(0.50)	(0.33)	(0.31)	(0.20)	(0.57)	(1.12)	1.83	(3.32)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
New Mexico Residential Service **(1)**	(5,152)	(791)	3,867	499	(1,386)	(7,171)	659	2,878	292	0	3,557	4,270	1,524
New Mexico Residential Space Heat **(2)**	(3,136)	(479)	2,205	(280)	(2,392)	(9,944)	1,040	5,217	762	(534)	2,073	2,491	(2,977)
New Mexico Small General Service **(3)**	(758)	(117)	588	77	(116)	(768)	88	472	53	0	547	646	713
New Mexico Secondary General Service **(4) & (5)**	(2,525)	(396)	1,894	228	0	0	0	0	0	0	1,758	2,099	3,058
New Mexico Irrigation Service **(6)**	(582)	835	161	0	0	0	4	288	372	731	539	(889)	1,460
Large Municipal and School Service **(7)**	(372)	(81)	972	215	0	0	1	86	99	212	660	100	1,893
Small Municipal and School Service **(8)**	(32)	(7)	69	18	0	0	0	10	9	19	63	7	157
New Mexico Retail Weather Adjustment Total	(12,556)	(1,035)	9,757	758	(3,894)	(17,882)	1,792	8,953	1,587	429	9,196	8,724	5,829

New Mexico Residential Service												
Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000015	0.0001956	0.0003986	0.0004188	0.0003262	0.0001519	0.0000000	0.0000000	0.0000000
Res Service Customers	62,559	62,681	62,817	62,921	62,941	63,026	63,024	63,096	63,190	63,254	63,327	63,348
Heating Degree Days Weather Adjustment (MWh)	0	0	0	(7)	(1,386)	(7,171)	659	2,878	292	0	0	0
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0009278	0.0009017	0.0007240	0.0002831	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0004043	0.0008251
Res Service Customers	62,559	62,681	62,817	62,921	62,941	63,026	63,024	63,096	63,190	63,254	63,327	63,348
Cooling Degree Days Weather Adjustment (MWh)	(5,152)	(791)	3,867	506	0	0	0	0	0	0	3,557	4,270
NM Residential Service Weather Adjustment (1)	(5,152)	(791)	3,867	499	(1,386)	(7,171)	659	2,878	292	0	3,557	4,270

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Residential Space Heat												
Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0002442	0.0007142	0.0011705	0.0014014	0.0012537	0.0008413	0.0002375	0.0000000	0.0000000
Res Space Heat Customers	29,732	29,758	29,760	29,766	29,768	29,767	29,735	29,753	29,753	29,741	29,719	29,719
Heating Degree Days Weather Adjustment (MWh)	0	0	0	(560)	(2,392)	(9,944)	1,040	5,217	762	(534)	0	0
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0011883	0.0011486	0.0008713	0.0003311	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0005020	0.0010259
Res Space Heat Customers	29,732	29,758	29,760	29,766	29,768	29,767	29,735	29,753	29,753	29,741	29,719	29,719
Cooling Degree Days Weather Adjustment (MWh)	(3,136)	(479)	2,205	280	0	0	0	0	0	0	2,073	2,491
NM Residential Space Heat Weather Adjustment (2)	(3,136)	(479)	2,205	(280)	(2,392)	(9,944)	1,040	5,217	762	(534)	2,073	2,491

New Mexico Small General Service												
Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000007	0.0000858	0.0002247	0.0002930	0.0002819	0.0001453	0.0000000	0.0000000	0.0000000
Small General Service Customers	11,928	11,950	11,957	11,971	11,967	11,975	11,972	11,975	11,967	11,992	11,994	11,991
Heating Degree Days Weather Adjustment (MWh)	0	0	0	-1	-116	-768	88	472	53	0	0	0
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0007158	0.0006974	0.0005785	0.0002281	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0003281	0.0006595
Small General Service Customers	11,928	11,950	11,957	11,971	11,967	11,975	11,972	11,975	11,967	11,992	11,994	11,991
Cooling Degree Days Weather Adjustment (MWh)	(758)	(117)	588	78	0	0	0	0	0	0	547	646
NM Small General Service Weather Adjustment (3)	(758)	(117)	588	77	(116)	(768)	88	472	53	0	547	646

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Small Secondary General Service												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0067492	0.0066938	0.0052613	0.0018918	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0029454	0.0059859
Small Secondary General Customers	4,213	4,219	4,232	4,230	4,239	4,254	4,261	4,271	4,270	4,285	4,295	4,292
Cooling Degree Days Weather Adjustment (MWh)	-2,524	-395	1,893	228	0	0	0	0	0	0	1,758	2,099
NM Small Secondary General Service Weather Adjustment (4)	(2,524)	(395)	1,893	228	0	0	0	0	0	0	1,758	2,099

New Mexico Large Secondary General Service												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0067492	0.0066938	0.0052613	0.0018918	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0029454	0.0059859
Large Secondary General Customers	2	2	2	1	1	1	1	1	1	1	1	1
Cooling Degree Days Weather Adjustment (MWh)	-1	0	1	0	0	0	0	0	0	0	0	0
NM Large Secondary General Service Weather Adjustment (5)	(1)	(0)	1	0	0	0	0	0	0	0	0	0

New Mexico Irrigation Service												
Precipitation Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.87	(0.98)	(0.38)	(1.19)	(0.45)	(0.50)	(0.33)	(0.31)	(0.20)	(0.57)	(1.12)	1.83
Precipitation Weather Coefficients	-0.66237	-0.84019	-0.42410	0.00000	0.00000	0.00000	-0.01211	-0.93870	-1.82780	-1.27959	-0.47629	-0.48168
Irrigation Customers	1,009	1,010	1,009	1,009	1,008	1,007	1,006	1,003	1,002	1,007	1,009	1,008
Precipitation Weather Adjustment (MWh)	(582)	835	161	0	0	0	4	288	372	731	539	(889)
NM Irrigation Weather Adjustment (6)	(582)	835	161	0	0	0	4	288	372	731	539	(889)

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Municipal and School Service

Cooling Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	0.0025918	0.0035828	0.0069935	0.0046937	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0016316	0.0026234
Municipal & School Customers	1,754	1,755	1,751	1,750	1,751	1,750	1,752	1,754	1,758	1,759	1,760	1,764
Cooling Degree Days Weather Adjustment (MWh)	(404)	(88)	1,041	234	0	0	0	0	0	0	399	378

Precipitation Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.87	(0.98)	(0.38)	(1.19)	(0.45)	(0.50)	(0.33)	(0.31)	(0.20)	(0.57)	(1.12)	1.83
Precipitation Weather Coefficients	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00232	-0.17984	-0.30214	-0.23194	-0.16394	-0.08405
Municipal & School Customers	1,754	1,755	1,751	1,750	1,751	1,750	1,752	1,754	1,758	1,759	1,760	1,764
Precipitation Weather Adjustment (MWh)	0	0	0	0	0	0	1	97	108	231	324	(272)
Municipal & School Weather Adjustment	(404)	(88)	1,041	234	0	0	1	97	108	231	723	107

New Mexico - Municipal and School Weather Impact Allocation

Billed Sales in KWh	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
LMSNM	9,603	12,283	13,043	10,049	9,622	9,491	8,593	7,230	10,312	9,370	9,314	11,852
SMSNM	814	1,047	924	861	767	769	916	849	977	844	889	793
Total	10,417	13,330	13,967	10,909	10,388	10,259	9,509	8,079	11,290	10,213	10,203	12,644

Allocation Factors	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
LMSNM	92.18%	92.14%	93.39%	92.11%	92.62%	92.51%	90.37%	89.49%	91.34%	91.74%	91.29%	93.73%
SMSNM	7.82%	7.86%	6.61%	7.89%	7.38%	7.49%	9.63%	10.51%	8.66%	8.26%	8.71%	6.27%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Municipal and School Allocation of Sales impacted by weather

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Mar-22	Mar-22	Mar-22
LMSNM **(7)**	(372)	(81)	972	215	0	0	1	86	99	212	660	100
SMSNM **(8)**	(32)	(7)	69	18	0	0	0	10	9	19	63	7

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Residential Service Coefficients (Modeled with MWH)

			Model Coefficients		Monthly weights Model to calendar			Calendar Month	
Year	Month	Date	HDD	CDD	Current	1st Future	2nd Future	HDD	CDD
2021	7	Jul-21	0.000000	0.000904	50.23%	49.77%	0.00%	0.0000000	0.0009278
2021	8	Aug-21	0.000000	0.000952	50.38%	49.62%	0.00%	0.0000000	0.0009017
2021	9	Sep-21	0.000000	0.000851	50.48%	49.52%	0.00%	0.0000000	0.0007240
2021	10	Oct-21	0.000000	0.000595	47.62%	51.92%	0.46%	0.0000015	0.0002831
2021	11	Nov-21	0.000000	0.000000	40.95%	59.05%	0.00%	0.0001956	0.0000000
2021	12	Dec-21	0.000331	0.000000	46.70%	53.15%	0.15%	0.0003986	0.0000000
2022	1	Jan-22	0.000458	0.000000	48.85%	50.38%	0.77%	0.0004188	0.0000000
2022	2	Feb-22	0.000383	0.000000	40.48%	59.52%	0.00%	0.0003262	0.0000000
2022	3	Mar-22	0.000288	0.000000	52.84%	47.16%	0.00%	0.0001519	0.0000000
2022	4	Apr-22	0.000000	0.000000	49.21%	50.79%	0.00%	0.0000000	0.0000000
2022	5	May-22	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0004043
2022	6	Jun-22	0.000000	0.000750	51.27%	48.57%	0.16%	0.0000000	0.0008251
2022	7	Jul-22	0.000000	0.000904	47.16%	52.84%	0.00%	0.0000000	0.0009292
2022	8	Aug-22	0.000000	0.000952	51.61%	48.39%	0.00%	0.0000000	0.0009029
2022	9	Sep-22	0.000000	0.000851	51.90%	48.10%	0.00%	0.0000000	0.0007277
2022	10	Oct-22	0.000000	0.000595	49.16%	50.69%	0.15%	0.0000005	0.0002922
2022	11	Nov-22	0.000000	0.000000	42.54%	57.46%	0.00%		
2022	12	Dec-22	0.000331	0.000000	48.39%	51.61%	0.00%		

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Residential Space Heat Coefficients (Modeled with MWH)

		Model Coefficients		Monthly weights Model to calendar			Calendar Month	
Year	Month	HDD	CDD	Current	1st Future	2nd Future	HDD	CDD
2021	7	0.000000	0.001125	50.23%	49.77%	0.00%	0.0000000	0.0011883
2021	8	0.000000	0.001252	50.38%	49.62%	0.00%	0.0000000	0.0011486
2021	9	0.000000	0.001044	50.48%	49.52%	0.00%	0.0000000	0.0008713
2021	10	0.000000	0.000695	47.62%	51.92%	0.46%	0.0002442	0.0003311
2021	11	0.000462	0.000000	40.95%	59.05%	0.00%	0.0007142	0.0000000
2021	12	0.000889	0.000000	46.70%	53.15%	0.15%	0.0011705	0.0000000
2022	1	0.001417	0.000000	48.85%	50.38%	0.77%	0.0014014	0.0000000
2022	2	0.001389	0.000000	40.48%	59.52%	0.00%	0.0012537	0.0000000
2022	3	0.001161	0.000000	52.84%	47.16%	0.00%	0.0008413	0.0000000
2022	4	0.000483	0.000000	49.21%	50.79%	0.00%	0.0002375	0.0000000
2022	5	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0005020
2022	6	0.000000	0.000931	51.27%	48.57%	0.16%	0.0000000	0.0010259
2022	7	0.000000	0.001125	47.16%	52.84%	0.00%	0.0000000	0.0011922
2022	8	0.000000	0.001252	51.61%	48.39%	0.00%	0.0000000	0.0011512
2022	9	0.000000	0.001044	51.90%	48.10%	0.00%	0.0000000	0.0008762
2022	10	0.000000	0.000695	49.16%	50.69%	0.15%	0.0002358	0.0003417
2022	11	0.000462	0.000000	42.54%	57.46%	0.00%		
2022	12	0.000889	0.000000	48.39%	51.61%	0.00%		

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Mexico Small General Service Coefficients (Modeled with MWH)

		Model Coefficients		Monthly weights Model to calendar			Calendar Month	
Year	Month	HDD	CDD	Current	1st Future	2nd Future	HDD	CDD
2021	7	0.000000	0.000713	50.23%	49.77%	0.00%	0.0000000	0.0007158
2021	8	0.000000	0.000718	50.38%	49.62%	0.00%	0.0000000	0.0006974
2021	9	0.000000	0.000676	50.48%	49.52%	0.00%	0.0000000	0.0005785
2021	10	0.000000	0.000479	47.62%	51.92%	0.46%	0.0000007	0.0002281
2021	11	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000858	0.0000000
2021	12	0.000145	0.000000	46.70%	53.15%	0.15%	0.0002247	0.0000000
2022	1	0.000294	0.000000	48.85%	50.38%	0.77%	0.0002930	0.0000000
2022	2	0.000292	0.000000	40.48%	59.52%	0.00%	0.0002819	0.0000000
2022	3	0.000275	0.000000	52.84%	47.16%	0.00%	0.0001453	0.0000000
2022	4	0.000000	0.000000	49.21%	50.79%	0.00%	0.0000000	0.0000000
2022	5	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0003281
2022	6	0.000000	0.000609	51.27%	48.57%	0.16%	0.0000000	0.0006595
2022	7	0.000000	0.000713	47.16%	52.84%	0.00%	0.0000000	0.0007159
2022	8	0.000000	0.000718	51.61%	48.39%	0.00%	0.0000000	0.0006979
2022	9	0.000000	0.000676	51.90%	48.10%	0.00%	0.0000000	0.0005813
2022	10	0.000000	0.000479	49.16%	50.69%	0.15%	0.0000002	0.0002355
2022	11	0.000000	0.000000	42.54%	57.46%	0.00%		
2022	12	0.000145	0.000000	48.39%	51.61%	0.00%		

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Nexico Secondary General Service Coefficients (Modeled with MWH)

		Model Coefficients		Monthly weights Model to calendar			Calendar Month			
Year	Month	HDD	CDD	Current	1st Future	2nd Future	HDD	CDD	Actual Cust	CDD per Cst
2021	7	0.000000	28.040390	50.23%	49.77%	0.00%	0.0000000	28.4477876	4,215	0.0067492
2021	8	0.000000	28.858957	50.38%	49.62%	0.00%	0.0000000	28.2546027	4,221	0.0066938
2021	9	0.000000	27.640893	50.48%	49.52%	0.00%	0.0000000	22.2762881	4,234	0.0052613
2021	10	0.000000	16.808518	47.62%	51.92%	0.46%	0.0000000	8.0040562	4,231	0.0018918
2021	11	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000000	0.0000000	4,240	0.0000000
2021	12	0.000000	0.000000	46.70%	53.15%	0.15%	0.0000000	0.0000000	4,255	0.0000000
2022	1	0.000000	0.000000	48.85%	50.38%	0.77%	0.0000000	0.0000000	4,262	0.0000000
2022	2	0.000000	0.000000	40.48%	59.52%	0.00%	0.0000000	0.0000000	4,272	0.0000000
2022	3	0.000000	0.000000	52.84%	47.16%	0.00%	0.0000000	0.0000000	4,271	0.0000000
2022	4	0.000000	0.000000	49.21%	50.79%	0.00%	0.0000000	0.0000000	4,286	0.0000000
2022	5	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	12.6532302	4,296	0.0029454
2022	6	0.000000	23.467957	51.27%	48.57%	0.16%	0.0000000	25.6974100	4,293	0.0059859
2022	7	0.000000	28.040390	47.16%	52.84%	0.00%	0.0000000	28.4729356	0	#DIV/0!
2022	8	0.000000	28.858957	51.61%	48.39%	0.00%	0.0000000	28.2695713	0	#DIV/0!
2022	9	0.000000	27.640893	51.90%	48.10%	0.00%	0.0000000	22.4310363	0	#DIV/0!
2022	10	0.000000	16.808518	49.16%	50.69%	0.15%	0.0000000	8.2622516	0	#DIV/0!
2022	11	0.000000	0.000000	42.54%	57.46%	0.00%				
2022	12	0.000000	0.000000	48.39%	51.61%	0.00%				

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Nexico Muni & School Service Coefficients (Modeled with MWH)

		Model Coefficients			Monthly weights Model to calendar			Calendar Month		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future	HDD	CDD	Precip
2021	7	0.000000	0.002197	0.000000	50.23%	49.77%	0.00%	0.0000000	0.002592	0.0000000
2021	8	0.000000	0.002990	0.000000	50.38%	49.62%	0.00%	0.0000000	0.003583	0.0000000
2021	9	0.000000	0.004184	0.000000	50.48%	49.52%	0.00%	0.0000000	0.006994	0.0000000
2021	10	0.000000	0.009857	0.000000	47.62%	51.92%	0.46%	0.0000000	0.004694	0.0000000
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000000	0.000000	0.0000000
2021	12	0.000000	0.000000	0.000000	46.70%	53.15%	0.15%	0.0000000	0.000000	0.0000000
2022	1	0.000000	0.000000	0.000000	48.85%	50.38%	0.77%	0.0000000	0.000000	-0.0023206
2022	2	0.000000	0.000000	0.000000	40.48%	59.52%	0.00%	0.0000000	0.000000	-0.1798440
2022	3	0.000000	0.000000	-0.302138	52.84%	47.16%	0.00%	0.0000000	0.000000	-0.3021379
2022	4	0.000000	0.000000	-0.302138	49.21%	50.79%	0.00%	0.0000000	0.000000	-0.2319418
2022	5	0.000000	0.000000	-0.163939	46.08%	53.92%	0.00%	0.0000000	0.001632	-0.1639393
2022	6	0.000000	0.003026	-0.163939	51.27%	48.57%	0.16%	0.0000000	0.002623	-0.0840514
2022	7	0.000000	0.002197	0.000000	47.16%	52.84%	0.00%	0.0000000	0.002616	0.0000000
2022	8	0.000000	0.002990	0.000000	51.61%	48.39%	0.00%	0.0000000	0.003568	0.0000000
2022	9	0.000000	0.004184	0.000000	51.90%	48.10%	0.00%	0.0000000	0.006913	0.0000000
2022	10	0.000000	0.009857	0.000000	49.16%	50.69%	0.15%	0.0000000	0.004845	0.0000000
2022	11	0.000000	0.0000000	0.000000	42.54%	57.46%	0.00%			
2022	12	0.000000	0.0000000	0.000000	48.39%	51.61%	0.00%			

Southwestern Public Service Company

Weather Normalization Regression Models and Associated Statistics

New Nexico Irrigation Service Coefficients (Modeled with MWH)

		Model Coefficients			Monthly weights Model to calendar			Calendar Month		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future	HDD	CDD	Precip
2021	7	0.000000	0.000000	-0.486187	50.23%	49.77%	0.00%	0.0000000	0.0000000	-0.6623743
2021	8	0.000000	0.000000	-0.840194	50.38%	49.62%	0.00%	0.0000000	0.0000000	-0.8401935
2021	9	0.000000	0.000000	-0.840194	50.48%	49.52%	0.00%	0.0000000	0.0000000	-0.4240977
2021	10	0.000000	0.000000	0.000000	47.62%	51.92%	0.46%	0.0000000	0.0000000	0.0000000
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000000	0.0000000	0.0000000
2021	12	0.000000	0.000000	0.000000	46.70%	53.15%	0.15%	0.0000000	0.0000000	0.0000000
2022	1	0.000000	0.000000	0.000000	48.85%	50.38%	0.77%	0.0000000	0.0000000	-0.0121123
2022	2	0.000000	0.000000	0.000000	40.48%	59.52%	0.00%	0.0000000	0.0000000	-0.9387014
2022	3	0.000000	0.000000	-1.577018	52.84%	47.16%	0.00%	0.0000000	0.0000000	-1.8278015
2022	4	0.000000	0.000000	-2.108809	49.21%	50.79%	0.00%	0.0000000	0.0000000	-1.2795946
2022	5	0.000000	0.000000	-0.476293	46.08%	53.92%	0.00%	0.0000000	0.0000000	-0.4762928
2022	6	0.000000	0.000000	-0.476293	51.27%	48.57%	0.16%	0.0000000	0.0000000	-0.4816759
2022	7	0.000000	0.000000	-0.486187	47.16%	52.84%	0.00%	0.0000000	0.0000000	-0.6732501
2022	8	0.000000	0.000000	-0.840194	51.61%	48.39%	0.00%	0.0000000	0.0000000	-0.8401935
2022	9	0.000000	0.000000	-0.840194	51.90%	48.10%	0.00%	0.0000000	0.0000000	-0.4361005
2022	10	0.000000	0.000000	0.000000	49.16%	50.69%	0.15%	0.0000000	0.0000000	0.0000000
2022	11	0.000000	0.000000	0.000000	42.54%	57.46%	0.00%			
2022	12	0.000000	0.000000	0.000000	48.39%	51.61%	0.00%			

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Roswell Weather Data
Normal Weather Based on a 30-year Historical Average

Month	Year	Date	Weather Act Cal HDD65	Weather Act Cal CDD65	Weather Act Cal Precip	Weather Norm Cal HDD65	Weather Norm Cal CDD65	Weather Norm Cal Precip	Dev HDD65	Dev CDD65	Dev Precip
Jul	2021	Jul-21	0	448	2.65	0	537	1.78	0	-89	0.87
Aug	2021	Aug-21	0	474	0.70	0	488	1.68	0	-14	-0.98
Sep	2021	Sep-21	3	351	1.16	10	266	1.54	-7	85	-0.38
Oct	2021	Oct-21	61	85	0.14	138	57	1.33	-77	28	-1.19
Nov	2021	Nov-21	335	0	0.00	448	1	0.45	-113	-1	-0.45
Dec	2021	Dec-21	442	1	0.06	727	0	0.56	-285	1	-0.50
Jan	2022	Jan-22	746	0	0.03	721	0	0.36	25	0	-0.33
Feb	2022	Feb-22	648	0	0.04	508	0	0.35	140	0	-0.31
Mar	2022	Mar-22	366	10	0.33	336	6	0.53	30	4	-0.20
Apr	2022	Apr-22	58	105	0.00	134	51	0.57	-76	54	-0.57
May	2022	May-22	8	360	0.02	23	221	1.14	-15	139	-1.12
Jun	2022	Jun-22	0	539	3.11	0	457	1.28	0	82	1.83
Annual			**2,667**	**2,373**	**8.24**	**3,045**	**2,085**	**11.57**	**-378**	**289**	**-3.32**
Annual Dev %									**-12.4%**	**13.8%**	**-28.7%**

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

SPS Wholesale Weather Impacted Sales - Transmission Level

Sales (In MWh) Calendar Month						Sales WN Calendar Month					Weather Impacted Sales 30-Year Normal				
	Central Valley	Farmers	Lea County	Roosevelt	Total	Central Valley	Farmers	Lea County	Roosevelt	Total	Central Valley	Farmers	Lea County	Roosevelt	Total
Jul-21	64,605	34,503	101,173	13,894	214,175	66,423	36,649	106,095	15,087	224,255	(1,818)	(2,146)	(4,922)	(1,194)	(10,079)
Aug-21	71,901	35,657	103,679	15,366	226,601	72,186	36,013	104,583	15,369	228,151	(286)	(356)	(905)	(4)	(1,550)
Sep-21	65,814	30,920	97,157	13,052	206,943	65,214	29,711	94,839	12,393	202,156	600	1,209	2,318	660	4,787
Oct-21	67,095	26,698	74,166	12,467	180,427	67,095	26,220	74,166	12,467	179,949	0	478	0	0	478
Nov-21	64,672	25,497	82,729	11,029	183,926	64,672	25,497	82,729	11,029	183,926	0	0	0	0	0
Dec-21	67,091	24,985	84,913	12,339	189,328	67,091	24,985	84,913	12,339	189,328	0	0	0	0	0
Jan-22	70,295	27,785	89,730	13,432	201,242	70,295	27,785	89,730	13,432	201,242	0	0	0	0	0
Feb-22	64,189	26,943	79,440	12,898	183,471	64,189	26,943	79,440	12,898	183,471	0	0	0	0	0
Mar-22	74,050	29,545	91,844	14,606	210,045	74,050	29,545	91,844	14,606	210,045	0	0	0	0	0
Apr-22	73,918	27,438	89,338	14,738	205,433	73,918	27,438	89,338	14,738	205,433	0	0	0	0	0
May-22	75,871	27,980	94,858	13,805	212,515	73,710	25,642	87,016	12,500	198,867	2,161	2,338	7,843	1,306	13,647
Jun-22	28,800	13,680	40,320	7,200	90,000	28,800	13,680	40,320	7,200	90,000	0	0	0	0	0
Total	**788,303**	**331,630**	**1,029,348**	**154,825**	**2,304,105**	**787,645**	**330,107**	**1,025,014**	**154,057**	**2,296,822**	**658**	**1,523**	**4,334**	**768**	**7,283**
															0.3%

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

SPS Wholesale Weather Impacted Sales - Production Level

Sales (In MWh) Calendar Month						Sales WN Calendar Month					Weather Impacted Sales 30-Year Normal				
	Central Valley	Farmers	Lea County	Roosevelt	Total	Central Valley	Farmers	Lea County	Roosevelt	Total	Central Valley	Farmers	Lea County	Roosevelt	Total
Jul-21	35,171	19,928	61,006	7,250	123,355	36,161	21,167	63,974	7,872	129,175	(990)	(1,239)	(2,968)	(623)	(5,820)
Aug-21	43,930	22,018	64,604	8,752	139,304	44,105	22,238	65,167	8,755	140,265	(174)	(220)	(564)	(2)	(960)
Sep-21	43,140	20,376	66,073	7,477	137,066	42,747	19,579	64,497	7,099	133,922	393	797	1,576	378	3,144
Oct-21	45,490	15,203	44,640	7,821	113,153	45,490	14,930	44,640	7,821	112,881	0	272	0	0	272
Nov-21	43,504	13,507	52,861	6,191	116,063	43,504	13,507	52,861	6,191	116,063	0	0	0	0	0
Dec-21	45,409	11,498	54,588	7,639	119,134	45,409	11,498	54,588	7,639	119,134	0	0	0	0	0
Jan-22	48,690	15,340	59,809	7,996	131,834	48,690	15,340	59,809	7,996	131,834	0	0	0	0	0
Feb-22	44,365	15,523	52,120	8,995	121,004	44,365	15,523	52,120	8,995	121,004	0	0	0	0	0
Mar-22	51,406	17,055	59,856	9,215	137,532	51,406	17,055	59,856	9,215	137,532	0	0	0	0	0
Apr-22	50,176	14,965	56,536	9,162	130,839	50,176	14,965	56,536	9,162	130,839	0	0	0	0	0
May-22	51,130	15,620	60,825	8,044	135,618	49,673	14,315	55,796	7,283	127,067	1,457	1,305	5,029	761	8,551
Jun-22	28,800	13,680	40,320	7,200	90,000	28,800	13,680	40,320	7,200	90,000	0	0	0	0	0
Total	**531,212**	**194,712**	**673,238**	**95,741**	**1,494,903**	**530,526**	**193,797**	**670,164**	**95,228**	**1,489,716**	**686**	**915**	**3,074**	**514**	**5,188**
															0.3%

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

New Mexico Wholesale Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Wholesale Weather Adjustment Summary													
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Heating Degree Days 30-yr normal	0	0	10	138	448	727	721	508	336	134	23	0	3,045
Heating Degree Days Actual	0	0	3	61	335	442	746	648	366	58	8	0	2,667
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)	(378)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Cooling Degree Days 30-yr normal	537	488	266	57	1	0	0	0	6	51	221	457	2,085
Cooling Degree Days Actual	448	474	351	85	0	1	0	0	10	105	360	539	2,373
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82	289
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Precipitation 30-yr normal	1.78	1.68	1.54	1.33	0.45	0.56	0.36	0.35	0.53	0.57	1.14	1.28	11.57
Precipitation Actual	2.65	0.70	1.16	0.14	0.00	0.06	0.03	0.04	0.33	0.00	0.02	3.11	8.24
Variance from Normal	0.87	(0.98)	(0.38)	(1.19)	(0.45)	(0.50)	(0.33)	(0.31)	(0.20)	(0.57)	(1.12)	1.83	(3.32)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Central Valley **(1)**	(1,818)	(286)	600	0	0	0	0	0	0	0	2,161	0	658
Farmers **(2)**	(2,146)	(356)	1,209	478	0	0	0	0	0	0	2,338	0	1,523
Lea County **(3)**	(4,922)	(905)	2,318	0	0	0	0	0	0	0	7,843	0	4,334
Roosevelt **(4)**	(1,194)	(4)	660	0	0	0	0	0	0	0	1,306	0	768
New Mexico Wholesale Weather Adjustment Total	(10,079)	(1,550)	4,787	478	0	0	0	0	0	0	13,647	0	7,283

Central Valley												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	20.482	20.395	7.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.557	0.000
Cooling Degree Days Weather Adjustment (MWh)	(1,818)	(286)	600	0	0	0	0	0	0	0	2,161	0
Central Valley Weather Adjustment (1)	(1,818)	(286)	600	0	0	0	0	0	0	0	2,161	0

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

New Mexico Wholesale Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

Farmers												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	24.173	25.442	14.219	16.814	0.000	0.000	0.000	0.000	0.000	0.000	16.827	0.000
Cooling Degree Days Weather Adjustment (MWh)	(2,146)	(356)	1,209	478	0	0	0	0	0	0	2,338	0
Farmers Weather Adjustment (2)	(2,146)	(356)	1,209	478	0	0	0	0	0	0	2,338	0

Lea County												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	55.449	64.612	27.258	0.000	0.000	0.000	0.000	0.000	0.000	0.000	56.450	0.000
Cooling Degree Days Weather Adjustment (MWh)	(4,922)	(905)	2,318	0	0	0	0	0	0	0	7,843	0
Lea County Weather Adjustment (3)	(4,922)	(905)	2,318	0	0	0	0	0	0	0	7,843	0

Roosevelt												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	11.779	12.204	7.757	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.025	0.000
Cooling Degree Days Weather Adjustment (MWh)	-1,046	-171	660	0	0	0	0	0	0	0	1,115	0
Precipitation Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.87	-0.98	-0.38	-1.19	-0.45	-0.50	-0.33	-0.31	-0.20	-0.57	-1.12	1.83
Precipitation Weather Coefficients	-170	-170	0	0	0	0	0	0	0	0	-170	0
Precipitation Weather Adjustment (MWh)	-148	167	0	0	0	0	0	0	0	0	191	0
Roosevelt Weather Adjustment (4)	(1,194)	(4)	660	0	0	0	0	0	0	0	1,306	0

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

New Mexico Wholesale Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

New Mexico Wholesale Weather Adjustment Summary													
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Heating Degree Days 30-yr normal	0	0	10	138	448	727	721	508	336	134	23	0	3,045
Heating Degree Days Actual	0	0	3	61	335	442	746	648	366	58	8	0	2,667
Variance from Normal	(0)	0	(7)	(77)	(113)	(285)	25	140	30	(76)	(15)	(0)	(378)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Cooling Degree Days 30-yr normal	537	488	266	57	1	0	0	0	6	51	221	457	2,085
Cooling Degree Days Actual	448	474	351	85	0	1	0	0	10	105	360	539	2,373
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82	289
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Precipitation 30-yr normal	1.78	1.68	1.54	1.33	0.45	0.56	0.36	0.35	0.53	0.57	1.14	1.28	11.57
Precipitation Actual	2.65	0.70	1.16	0.14	0.00	0.06	0.03	0.04	0.33	0.00	0.02	3.11	8.24
Variance from Normal	0.87	(0.98)	(0.38)	(1.19)	(0.45)	(0.50)	(0.33)	(0.31)	(0.20)	(0.57)	(1.12)	1.83	(3.32)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Central Valley **(1)**	(990)	(174)	393	0	0	0	0	0	0	0	1,457	0	686
Farmers **(2)**	(1,239)	(220)	797	272	0	0	0	0	0	0	1,305	0	915
Lea County **(3)**	(2,968)	(564)	1,576	0	0	0	0	0	0	0	5,029	0	3,074
Roosevelt **(4)**	(623)	(2)	378	0	0	0	0	0	0	0	761	0	514
New Mexico Wholesale Weather Adjustment Total	(5,820)	(960)	3,144	272	0	0	0	0	0	0	8,551	0	5,188

Central Valley												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	11.150	12.461	4.627	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.484	0.000
Cooling Degree Days Weather Adjustment (MWh)	(990)	(174)	393	0	0	0	0	0	0	0	1,457	0
Central Valley Weather Adjustment (1)	(990)	(174)	393	0	0	0	0	0	0	0	1,457	0

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

New Mexico Wholesale Weather Impacted Sales Calculation
Using Roswell Weather (Normal Period 1991-2020)

Farmers												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	13.961	15.710	9.371	9.574	0.000	0.000	0.000	0.000	0.000	0.000	9.393	0.000
Cooling Degree Days Weather Adjustment (MWh)	(1,239)	(220)	797	272	0	0	0	0	0	0	1,305	0
Farmers Weather Adjustment (2)	(1,239)	(220)	797	272	0	0	0	0	0	0	1,305	0

Lea County												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	33.435	40.261	18.537	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.196	0.000
Cooling Degree Days Weather Adjustment (MWh)	(2,968)	(564)	1,576	0	0	0	0	0	0	0	5,029	0
Lea County Weather Adjustment (3)	(2,968)	(564)	1,576	0	0	0	0	0	0	0	5,029	0

Roosevelt												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(89)	(14)	85	28	(1)	1	0	(0)	4	54	139	82
Cooling Degree Days Weather Coefficients	6.146	6.951	4.443	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.676	0.000
Cooling Degree Days Weather Adjustment (MWh)	-546	-97	378	0	0	0	0	0	0	0	650	0
Precipitation Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.87	-0.98	-0.38	-1.19	-0.45	-0.50	-0.33	-0.31	-0.20	-0.57	-1.12	1.83
Precipitation Weather Coefficients	-89	-97	0	0	0	0	0	0	0	0	-99	0
Precipitation Weather Adjustment (MWh)	-77	95	0	0	0	0	0	0	0	0	111	0
Roosevelt Weather Adjustment (4)	(623)	(2)	378	0	0	0	0	0	0	0	761	0

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Central Valley Coefficients (Modeled with MWH)

			Model Coefficients		
Year	Month	Date	HDD	CDD	Precip
2021	Jul	Jul-21	0.0000	20.4821	0.0000
2021	Aug	Aug-21	0.0000	20.3951	0.0000
2021	Sep	Sep-21	0.0000	7.0587	0.0000
2021	Oct	Oct-21	0.0000	0.0000	0.0000
2021	Nov	Nov-21	0.0000	0.0000	0.0000
2021	Dec	Dec-21	0.0000	0.0000	0.0000
2022	Jan	Jan-22	0.0000	0.0000	0.0000
2022	Feb	Feb-22	0.0000	0.0000	0.0000
2022	Mar	Mar-22	0.0000	0.0000	0.0000
2022	Apr	Apr-22	0.0000	0.0000	0.0000
2022	May	May-22	0.0000	15.5567	0.0000

Farmers Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	24.1725	0.0000
2021	Aug	0.0000	25.4416	0.0000
2021	Sep	0.0000	14.2194	0.0000
2021	Oct	0.0000	16.8137	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	16.8267	0.0000

(1) Wholesale Partial Requirements Contract begin June 2022

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Lea County Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	55.4490	0.0000
2021	Aug	0.0000	64.6123	0.0000
2021	Sep	0.0000	27.2579	0.0000
2021	Oct	0.0000	0.0000	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	56.4496	0.0000

Roosevelt Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	11.7792	-169.9423
2021	Aug	0.0000	12.2036	-169.9423
2021	Sep	0.0000	7.7570	0.0000
2021	Oct	0.0000	0.0000	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	8.0245	-169.9423

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Central Valley Coefficients (Modeled with MWH)

			Model Coefficients		
Year	Month	Date	HDD	CDD	Precip
2021	Jul	Jul-21	0.0000	11.1505	0.0000
2021	Aug	Aug-21	0.0000	12.4611	0.0000
2021	Sep	Sep-21	0.0000	4.6269	0.0000
2021	Oct	Oct-21	0.0000	0.0000	0.0000
2021	Nov	Nov-21	0.0000	0.0000	0.0000
2021	Dec	Dec-21	0.0000	0.0000	0.0000
2022	Jan	Jan-22	0.0000	0.0000	0.0000
2022	Feb	Feb-22	0.0000	0.0000	0.0000
2022	Mar	Mar-22	0.0000	0.0000	0.0000
2022	Apr	Apr-22	0.0000	0.0000	0.0000
2022	May	May-22	0.0000	10.4837	0.0000

Farmers Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	13.9612	0.0000
2021	Aug	0.0000	15.7103	0.0000
2021	Sep	0.0000	9.3705	0.0000
2021	Oct	0.0000	9.5742	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	9.3935	0.0000

(1) Wholesale Partial Requirements Contract begin June 2022

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Lea County Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	33.4351	0.0000
2021	Aug	0.0000	40.2609	0.0000
2021	Sep	0.0000	18.5373	0.0000
2021	Oct	0.0000	0.0000	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	36.1963	0.0000

Roosevelt Coefficients (Modeled with MWH)

		Model Coefficients		
Year	Month	HDD	CDD	Precip
2021	Jul	0.0000	6.1463	-88.6748
2021	Aug	0.0000	6.9513	-96.8015
2021	Sep	0.0000	4.4435	0.0000
2021	Oct	0.0000	0.0000	0.0000
2021	Nov	0.0000	0.0000	0.0000
2021	Dec	0.0000	0.0000	0.0000
2022	Jan	0.0000	0.0000	0.0000
2022	Feb	0.0000	0.0000	0.0000
2022	Mar	0.0000	0.0000	0.0000
2022	Apr	0.0000	0.0000	0.0000
2022	May	0.0000	4.6757	-99.0208

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

		Production				Transmission (Production + Load Reduction)					Ratio (Production/Transmission)				Reductions in kWh, at meter			
Year	**Month**	**Central Valley**	**Farmers**	**Lea County**	**Roosevelt**	**Central Valley**	**Farmers**	**Lea County**	**Roosevelt**		**Central Valley**	**Farmers**	**Lea County**	**Roosevelt**	**Central Valley**	**Farmers**	**Lea County**	**Roosevelt**
2021	July	35,171	19,928	61,006	7,250	64,605	34,503	101,173	13,894	Oct	54%	58%	60%	52%	(29,433,971)	(14,575,269)	(40,166,800)	(6,644,132)
2021	August	43,930	22,018	64,604	8,752	71,901	35,657	103,679	15,366	Nov	61%	62%	62%	57%	(27,970,403)	(13,638,487)	(39,074,932)	(6,613,157)
2021	September	43,140	20,376	66,073	7,477	65,814	30,920	97,157	13,052	Dec	66%	66%	68%	57%	(22,673,682)	(10,543,874)	(31,083,389)	(5,575,496)
2021	October	45,490	15,203	44,640	7,821	67,095	26,698	74,166	12,467	Jan	68%	57%	60%	63%	(21,605,046)	(11,495,328)	(29,526,896)	(4,646,246)
2021	November	43,504	13,507	52,861	6,191	64,672	25,497	82,729	11,029	Feb	67%	53%	64%	56%	(21,167,524)	(11,989,851)	(29,867,621)	(4,837,904)
2021	December	45,409	11,498	54,588	7,639	67,091	24,985	84,913	12,339	Mar	68%	46%	64%	62%	(21,682,483)	(13,486,472)	(30,324,502)	(4,700,453)
2022	January	48,690	15,340	59,809	7,996	70,295	27,785	89,730	13,432	Apr	69%	55%	67%	60%	(21,605,046)	(12,444,934)	(29,921,827)	(5,436,108)
2022	February	44,365	15,523	52,120	8,995	64,189	26,943	79,440	12,898	May	69%	58%	66%	70%	(19,823,985)	(11,420,639)	(27,319,929)	(3,902,847)
2022	March	51,406	17,055	59,856	9,215	74,050	29,545	91,844	14,606	Jun	69%	58%	65%	63%	(22,644,643)	(12,489,952)	(31,987,471)	(5,390,614)
2022	April	50,176	14,965	56,536	9,162	73,918	27,438	89,338	14,738	Jul	68%	55%	63%	62%	(23,742,319)	(12,472,871)	(32,802,500)	(5,575,496)
2022	May	51,130	15,620	60,825	8,044	75,871	27,980	94,858	13,805	Aug	67%	56%	64%	58%	(24,741,262)	(12,360,047)	(34,033,755)	(5,761,346)

Southwestern Public Service Company

Weather Normalization of New Mexico Retail Adjusted Base Period Sales

Check	125												
Load Factor	**1**		Demand MW						Energy MWh				
Year	Month	Days in Month	Central Valley	Farmers	Lea County	Roosevelt	Hrs/Day		Central Valley	Farmers	Lea County	Roosevelt	
2022	Jun	30	40	19	56	10	720	Jun-22	28,800	13,680	40,320	7,200	

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Panhandle Weather Data (Amarillo TX and Lubbock TX)
Using Panhandle Weather (Normal Period 1991-2020)
Normal Weather Based on a 30-year Historical Average

Month	Year	Date	Weather Act Cal HDD65	Weather Act Cal CDD65	Weather Act Cal Precip	Weather Norm Cal HDD65	Weather Norm Cal CDD65	Weather Norm Cal Precip	Dev HDD65	Dev CDD65	Dev Precip
Jul	2021	Jul-21	0	407	2.86	0	460	2.58	0	-53	0.28
Aug	2021	Aug-21	0	456	1.58	0	413	2.60	0	43	-1.01
Sep	2021	Sep-21	6	307	0.72	29	208	1.90	-23	99	-1.19
Oct	2021	Oct-21	116	71	0.64	210	43	1.69	-94	28	-1.05
Nov	2021	Nov-21	393	0	0.10	517	2	0.76	-124	-2	-0.66
Dec	2021	Dec-21	487	0	0.06	799	0	0.69	-312	0	-0.63
Jan	2022	Jan-22	828	0	0.30	809	0	0.68	19	0	-0.38
Feb	2022	Feb-22	774	0	0.14	636	0	0.54	138	0	-0.41
Mar	2022	Mar-22	484	4	1.14	459	5	1.22	25	-1	-0.08
Apr	2022	Apr-22	170	73	0.01	235	29	1.42	-65	44	-1.41
May	2022	May-22	55	256	1.96	71	148	2.38	-16	108	-0.42
Jun	2022	Jun-22	7	431	1.89	3	348	2.78	4	83	-0.89
Annual Update			**3,320**	**2,005**	**11.39**	**3,768**	**1,655**	**19.24**	**-448**	**350**	**-7.84**
Annual Dev %									**-11.9%**	**21.1%**	**-40.8%**

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

SPS Texas Base Period Calendar Month Weather Normal Sales
30-Year Normal Weather

Calendar Month - MONTHLY MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-21	250,830	279,008	644,754	1,702	36,816	1,213,111	265,847	288,529	645,131	1,702	36,907	1,238,114
Aug-21	283,236	297,334	609,120	1,675	35,825	1,227,189	284,504	287,983	608,828	1,675	35,662	1,218,653
Sep-21	224,336	259,081	643,156	1,576	35,215	1,163,363	232,603	242,499	642,525	1,576	35,215	1,154,419
Oct-21	162,767	242,276	626,553	1,470	32,201	1,065,267	163,129	240,507	626,550	1,470	32,201	1,063,857
Nov-21	150,284	240,532	619,536	1,427	24,493	1,036,272	150,290	243,530	619,541	1,427	24,493	1,039,281
Dec-21	190,191	239,052	627,873	1,413	26,696	1,085,225	190,240	250,426	627,891	1,413	26,696	1,096,666
Jan-22	235,544	248,767	609,663	1,405	27,353	1,122,733	235,580	248,400	609,663	1,405	27,353	1,122,402
Feb-22	217,719	213,745	548,208	1,378	24,539	1,005,589	242,723	211,103	548,208	1,378	24,539	1,027,950
Mar-22	198,340	247,964	609,986	1,372	27,795	1,085,458	198,340	247,245	609,986	1,372	27,749	1,084,693
Apr-22	144,084	239,344	596,083	1,322	26,345	1,007,178	144,084	232,969	595,860	1,322	25,511	999,746
May-22	196,502	287,940	619,504	1,304	35,224	1,140,474	196,502	279,343	619,425	1,304	35,151	1,131,726
Jun-22	254,090	267,980	648,903	1,259	30,477	1,202,708	254,090	259,920	648,262	1,259	30,192	1,193,724
Total	**2,507,924**	**3,063,024**	**7,403,339**	**17,303**	**362,979**	**13,354,569**	**2,557,932**	**3,032,455**	**7,401,870**	**17,303**	**361,670**	**13,371,231**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-21	250,830	279,008	644,754	1,702	36,816	1,213,111	265,847	288,529	645,131	1,702	36,907	1,238,114
Aug-21	534,066	576,342	1,253,874	3,377	72,641	2,440,300	550,350	576,512	1,253,959	3,377	72,569	2,456,767
Sep-21	758,402	835,423	1,897,030	4,953	107,856	3,603,663	782,953	819,011	1,896,484	4,953	107,785	3,611,186
Oct-21	921,169	1,077,699	2,523,582	6,423	140,057	4,668,930	946,082	1,059,518	2,523,034	6,423	139,986	4,675,043
Nov-21	1,071,453	1,318,231	3,143,118	7,850	164,550	5,705,203	1,096,372	1,303,049	3,142,575	7,850	164,478	5,714,324
Dec-21	1,261,644	1,557,283	3,770,992	9,263	191,246	6,790,428	1,286,612	1,553,474	3,770,466	9,263	191,175	6,810,990
Jan-22	1,497,188	1,806,051	4,380,655	10,668	218,600	7,913,161	1,522,192	1,801,875	4,380,129	10,668	218,528	7,933,392
Feb-22	1,714,907	2,019,796	4,928,863	12,046	243,138	8,918,750	1,764,915	2,012,977	4,928,337	12,046	243,067	8,961,342
Mar-22	1,913,247	2,267,760	5,538,849	13,418	270,934	10,004,208	1,963,255	2,260,223	5,538,324	13,418	270,816	10,046,035
Apr-22	2,057,332	2,507,104	6,134,932	14,740	297,278	11,011,387	2,107,339	2,493,192	6,134,183	14,740	296,327	11,045,781
May-22	2,253,834	2,795,044	6,754,436	16,044	332,502	12,151,860	2,303,841	2,772,535	6,753,608	16,044	331,478	12,177,507
Jun-22	**2,507,924**	**3,063,024**	**7,403,339**	**17,303**	**362,979**	**13,354,569**	**2,557,932**	**3,032,455**	**7,401,870**	**17,303**	**361,670**	**13,371,231**

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

SPS Texas Base Period Calendar Month Weather Normal Sales
30-Year Normal Weather

Calendar Month - MONTHLY MWH

	Act var fr WN Res	Act var fr WN Small C&I	Act var fr WN Large C&I	Act var Cal Mth Street	Act var Cal Mth Other Sale Auth	Act var fr WN Retail	% var Res	% var Small C&I	% var Large C&I	% var Street	% var Other Sale Auth	% var Retail
Jul-21	(15,017)	(9,520)	(377)	0	(91)	(25,004)	-5.6%	-3.3%	-0.1%	0.0%	-0.2%	-2.0%
Aug-21	(1,268)	9,351	292	0	162	8,537	-0.4%	3.2%	0.0%	0.0%	0.5%	0.7%
Sep-21	(8,267)	16,581	630	0	0	8,944	-3.6%	6.8%	0.1%	0.0%	0.0%	0.8%
Oct-21	(362)	1,769	3	0	0	1,410	-0.2%	0.7%	0.0%	0.0%	0.0%	0.1%
Nov-21	(5)	(2,999)	(5)	0	0	(3,009)	0.0%	-1.2%	0.0%	0.0%	0.0%	-0.3%
Dec-21	(49)	(11,373)	(18)	0	0	(11,441)	0.0%	-4.5%	0.0%	0.0%	0.0%	-1.0%
Jan-22	(36)	367	0	0	0	331	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Feb-22	(25,004)	2,643	0	0	0	(22,361)	-10.3%	1.3%	0.0%	0.0%	0.0%	-2.2%
Mar-22	0	719	0	0	47	765	0.0%	0.3%	0.0%	0.0%	0.2%	0.1%
Apr-22	0	6,375	223	0	834	7,432	0.0%	2.7%	0.0%	0.0%	3.3%	0.7%
May-22	0	8,597	79	0	72	8,748	0.0%	3.1%	0.0%	0.0%	0.2%	0.8%
Jun-22	0	8,060	641	0	284	8,985	0.0%	3.1%	0.1%	0.0%	0.9%	0.8%
Total	**(50,008)**	**30,569**	**1,469**	**0**	**1,308**	**(16,662)**	**-2.0%**	**1.0%**	**0.0%**	**0.0%**	**0.4%**	**-0.1%**

YEAR TO DATE MWH

	Act var fr WN Res	Act var fr WN Small C&I	Act var fr WN Large C&I	Act var fr WN Street	Act var fr WN Other Sale Auth	Act var fr WN Retail	% var Res	% var Small C&I	% var Large C&I	% var Street	% var Other Sale Auth	% var Retail
Jul-21	(15,017)	(9,520)	(377)	0	(91)	(25,004)	-5.6%	-3.3%	-0.1%	0.0%	-0.2%	-2.0%
Aug-21	(16,284)	(170)	(85)	0	72	(16,467)	-3.0%	0.0%	0.0%	0.0%	0.1%	-0.7%
Sep-21	(24,552)	16,412	545	0	72	(7,523)	-3.1%	2.0%	0.0%	0.0%	0.1%	-0.2%
Oct-21	(24,913)	18,181	548	0	72	(6,113)	-2.6%	1.7%	0.0%	0.0%	0.1%	-0.1%
Nov-21	(24,918)	15,182	543	0	72	(9,121)	-2.3%	1.2%	0.0%	0.0%	0.0%	-0.2%
Dec-21	(24,968)	3,809	525	0	72	(20,562)	-1.9%	0.2%	0.0%	0.0%	0.0%	-0.3%
Jan-22	(25,004)	4,176	525	0	72	(20,231)	-1.6%	0.2%	0.0%	0.0%	0.0%	-0.3%
Feb-22	(50,008)	6,819	525	0	72	(42,592)	-2.8%	0.3%	0.0%	0.0%	0.0%	-0.5%
Mar-22	(50,008)	7,537	525	0	118	(41,827)	-2.5%	0.3%	0.0%	0.0%	0.0%	-0.4%
Apr-22	(50,008)	13,912	749	0	952	(34,395)	-2.4%	0.6%	0.0%	0.0%	0.3%	-0.3%
May-22	(50,008)	22,509	828	0	1,024	(25,647)	-2.2%	0.8%	0.0%	0.0%	0.3%	-0.2%
Jun-22	**(50,008)**	**30,569**	**1,469**	**0**	**1,308**	**(16,662)**	**-2.0%**	**1.0%**	**0.0%**	**0.0%**	**0.4%**	**-0.1%**

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Weather Impacted Sales Calculation
Using Panhandle Weather (Normal Period 1991-2020)

Texas Retail Weather Adjustment Summary													
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Heating Degree Days 30-yr normal	0	0	29	210	517	799	809	636	459	235	71	3	3,768
Heating Degree Days Actual	0	0	6	116	393	487	828	774	484	170	55	7	3,320
Variance from Normal	(0)	(0)	(23)	(94)	(124)	(312)	19	138	25	(65)	(16)	4	(448)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Cooling Degree Days 30-yr normal	460	413	208	43	2	0	0	0	5	29	148	348	1,655
Cooling Degree Days Actual	407	456	307	71	0	0	0	0	4	73	256	431	2,005
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83	350
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Precipitation 30-yr normal	2.58	2.60	1.90	1.69	0.76	0.69	0.68	0.54	1.22	1.42	2.38	2.78	19.24
Precipitation Actual	2.86	1.58	0.72	0.64	0.10	0.06	0.30	0.14	1.14	0.01	1.96	1.89	11.39
Variance from Normal	0.28	(1.01)	(1.19)	(1.05)	(0.66)	(0.63)	(0.38)	(0.41)	(0.08)	(1.41)	(0.42)	(0.89)	(7.84)
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Total
Texas Residential Service **(1)**	(15,017)	11,715	22,370	2,467	(6,007)	(31,660)	1,993	11,146	949	0	14,582	22,254	34,794
Texas Small General Service **(2)**	(1,268)	1,145	2,352	265	(311)	(1,788)	109	611	58	0	1,050	1,656	3,879
Texas Secondary General Service **(3) & (4)**	(8,267)	8,219	14,254	1,507	(2,692)	(9,603)	259	2,031	661	6,375	7,559	6,413	26,715
CRMWA Weather Adjustment **(5)**	(362)	279	605	0	0	0	0	0	0	223	67	631	1,444
Small Municipal and School Service **(6)**	(5)	9	0	0	0	0	0	0	47	834	72	284	1,241
Large Municipal and School Service **(7)**	(49)	88	0	0	0	0	0	0	0	0	0	0	38
Large School Service **(8)**	(36)	65	0	0	0	0	0	0	0	0	0	0	29
Texas Retail Weather Adjustment Total	(25,004)	21,519	39,582	4,239	(9,011)	(43,051)	2,361	13,789	1,714	7,432	23,330	31,239	68,140

Texas Residential Service												
Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	(0)	(23)	(94)	(124)	(312)	19	138	25	(65)	(16)	4
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000018	0.0002313	0.0004832	0.0005056	0.0003855	0.0001799	0.0000000	0.0000000	0.0000000
Res Service Customers	208,914	209,290	209,451	209,696	209,901	210,098	210,070	210,203	210,544	210,695	210,751	210,897
Heating Degree Days Weather Adjustment (MWh)	0	0	0	-36	-6,007	-31,660	1,993	11,146	949	0	0	0
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	0.0013672	0.0013168	0.0010774	0.0004301	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0006385	0.0012652
Res Service Customers	208,914	209,290	209,451	209,696	209,901	210,098	210,070	210,203	210,544	210,695	210,751	210,897
Cooling Degree Days Weather Adjustment (MWh)	(15,017)	11,715	22,370	2,503	0	0	0	0	0	0	14,582	22,254
TX Residential Service Weather Adjustment (1)	(15,017)	11,715	22,370	2,467	(6,007)	(31,660)	1,993	11,146	949	0	14,582	22,254

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Weather Impacted Sales Calculation
Using Panhandle Weather (Normal Period 1991-2020)

Texas Small General Service

Heating Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	(0)	(23)	(94)	(124)	(312)	19	138	25	(65)	(16)	4
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000006	0.0000776	0.0001766	0.0001779	0.0001366	0.0000705	0.0000000	0.0000000	0.0000000
Small General Service Customers	32,375	32,421	32,464	32,467	32,448	32,466	32,557	32,554	32,588	32,623	32,677	32,717
Heating Degree Days Weather Adjustment (MWh)	0	0	0	-2	-311	-1,788	109	611	58	0	0	0

Cooling Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	0.0007447	0.0008304	0.0007309	0.0002964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0002965	0.0006069
Small General Service Customers	32,375	32,421	32,464	32,467	32,448	32,466	32,557	32,554	32,588	32,623	32,677	32,717
Cooling Degree Days Weather Adjustment (MWh)	(1,268)	1,145	2,352	267	0	0	0	0	0	0	1,050	1,656
TX Small General Service Weather Adjustment (2)	(1,268)	1,145	2,352	265	(311)	(1,788)	109	611	58	0	1,050	1,656

Texas Small Secondary General Service

Heating Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	(0)	(23)	(94)	(124)	(312)	19	138	25	(65)	(16)	4
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000139	0.0017801	0.0025184	0.0010279	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Small Secondary General Customers	12,158	12,186	12,188	12,205	12,201	12,204	12,124	12,130	12,150	12,168	12,162	12,164
Heating Degree Days Weather Adjustment (MWh)	0	0	0	-16	-2,687	-9,585	234	0	0	0	0	0

Cooling Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	0.0122392	0.0128917	0.0110309	0.0044880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0052440	0.0049857
Small Secondary General Customers	12,158	12,186	12,188	12,205	12,201	12,204	12,124	12,130	12,150	12,168	12,162	12,164
Cooling Degree Days Weather Adjustment (MWh)	-7,823	6,678	13,328	1,520	0	0	0	0	0	0	6,912	5,058

Precipitation Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.28	(1.01)	(1.19)	(1.05)	(0.66)	(0.63)	(0.38)	(0.41)	(0.08)	(1.41)	(0.42)	(0.89)
Precipitation Weather Coefficients	-0.123890	-0.123605	-0.062381	0.000000	0.000000	0.000000	-0.005323	-0.412353	-0.661495	-0.371316	-0.123859	-0.123839
Small Secondary General Customers	12,158	12,186	12,188	12,205	12,201	12,204	12,124	12,130	12,150	12,168	12,162	12,164
Precipitation Weather Adjustment (MWh)	(429)	1,528	901	0	0	0	24	2,031	661	6,375	635	1,346
TX Small Secondary General Service Weather Adjustment (3	(8,253)	8,206	14,229	1,504	(2,687)	(9,585)	258	2,031	661	6,375	7,547	6,404

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Weather Impacted Sales Calculation
Using Panhandle Weather (Normal Period 1991-2020)

Texas Large Secondary General Service												
Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(0)	(0)	(23)	(94)	(124)	(312)	19	138	25	(65)	(16)	4
Heating Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000139	0.0017801	0.0025184	0.0010279	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Large Secondary General Customers	23	23	23	23	23	23	22	22	22	22	22	22
Heating Degree Days Weather Adjustment (MWh)	0	0	0	0	-5	-18	0	0	0	0	0	0
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	0.0122392	0.0128917	0.0110309	0.0044880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0052440	0.0049857
Large Secondary General Customers	23	23	23	23	23	23	22	22	22	22	22	22
Cooling Degree Days Weather Adjustment (MWh)	-15	13	25	3	0	0	0	0	0	0	13	9
Precipitation Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal												
Precipitation Weather Coefficients												
Small Secondary General Customers												
Precipitation Weather Adjustment (MWh)												
TX Large Secondary General Service Weather Adjustment (4	(15)	13	25	3	(5)	(18)	0	0	0	0	13	9

Large SG customer usage is not impacted by precipitation

Canadian River Municipal Water Authority (CRMWA)												
Cooling Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	6.8804422	6.5629855	6.1040903	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.8751637
CRMWA Customers	1	1	1	1	1	1	1	1	1	1	1	1
Cooling Degree Days Weather Adjustment (MWh)	(362)	279	605	0	0	0	0	0	0	0	0	490
Precipitation Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.28	(1.01)	(1.19)	(1.05)	(0.66)	(0.63)	(0.38)	(0.41)	(0.08)	(1.41)	(0.42)	(0.89)
Precipitation Weather Coefficients	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-158.30905	-158.30905	-158.30905
Small Secondary General Customers	1	1	1	1	1	1	1	1	1	1	1	1
Precipitation Weather Adjustment (MWh)	0	0	0	0	0	0	0	0	0	223	67	141
CRMWA Weather Adjustment (5)	(362)	279	605	0	0	0	0	0	0	223	67	631

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Weather Impacted Sales Calculation
Using Panhandle Weather (Normal Period 1991-2020)

Texas Municipal and School Service

Cooling Degree Days Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	(53)	43	99	28	(2)	0	0	(0)	(1)	44	108	83
Cooling Degree Days Weather Coefficients	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Municipal & School Customers	4,458	4,454	4,451	4,452	4,450	4,449	4,450	4,454	4,456	4,455	4,457	4,463
Cooling Degree Days Weather Adjustment (MWh)	0	0	0	0	0	0	0	0	0	0	0	0

Precipitation Weather Adjustment (30-yr normal)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Variance from Normal	0.28	(1.01)	(1.19)	(1.05)	(0.66)	(0.63)	(0.38)	(0.41)	(0.08)	(1.41)	(0.42)	(0.89)
Precipitation Weather Coefficients	(0.07127)	(0.03591)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	(0.12708)	(0.13260)	(0.03842)	(0.07127)
Small Secondary General Customers	4,458	4,454	4,451	4,452	4,450	4,449	4,450	4,454	4,456	4,455	4,457	4,463
Precipitation Weather Adjustment (MWh)	(91)	162	0	0	0	0	0	0	47	834	72	284
Weather Adjustment	(91)	162	0	0	0	0	0	0	47	834	72	284

Texas - Municipal and School Weather Impact Allocation (Billed Sales in KWh)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
SMSTX	1,771	1,963	1,821	2,936	250	1,643	2,071	1,705	2,004	1,734	1,472	1,561
LMSTX	17,245	18,495	17,146	16,986	16,032	12,142	0	0	0	0	0	0
LSSTX	12,646	13,796	15,628	17,001	13,355	11,352	0	0	0	0	0	0
Total	31,661	34,254	34,595	36,924	29,638	25,137	2,071	1,705	2,004	1,734	1,472	1,561

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
SMSTX	5.59%	5.73%	5.26%	7.95%	0.84%	6.54%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
LMSTX	54.47%	53.99%	49.56%	46.00%	54.09%	48.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LSSTX	39.94%	40.28%	45.17%	46.04%	45.06%	45.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Municipal and School Allocation of Sales impacted by weather

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
SMSTX **(6)**	(5)	9	0	0	0	0	0	0	47	834	72	284
LMSTX **(7)**	(49)	88	0	0	0	0	0	0	0	0	0	0
LSSTX **(8)**	(36)	65	0	0	0	0	0	0	0	0	0	0

Southewestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Residential Service Coefficients (Modeled with MWH)

			Model Coefficients		Monthly weights Model to calendar			Calendar Month	
Year	Month	Date	HDD	CDD	Current	1st Future	2nd Future	HDD	CDD
2021	7	Jul-21	0.000000	0.001350	50.23%	49.77%	0.00%	0.0000000	0.0013672
2021	8	Aug-21	0.000000	0.001384	50.38%	49.62%	0.00%	0.0000000	0.0013168
2021	9	Sep-21	0.000000	0.001248	50.48%	49.52%	0.00%	0.0000000	0.0010774
2021	10	Oct-21	0.000000	0.000903	47.62%	51.92%	0.46%	0.0000018	0.0004301
2021	11	Nov-21	0.000000	0.000000	40.95%	59.05%	0.00%	0.0002313	0.0000000
2021	12	Dec-21	0.000392	0.000000	46.70%	53.15%	0.15%	0.0004832	0.0000000
2022	1	Jan-22	0.000564	0.000000	48.85%	50.38%	0.77%	0.0005056	0.0000000
2022	2	Feb-22	0.000452	0.000000	40.48%	59.52%	0.00%	0.0003855	0.0000000
2022	3	Mar-22	0.000340	0.000000	52.84%	47.16%	0.00%	0.0001799	0.0000000
2022	4	Apr-22	0.000000	0.000000	49.21%	50.79%	0.00%	0.0000000	0.0000000
2022	5	May-22	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0006385
2022	6	Jun-22	0.000000	0.001184	51.27%	48.57%	0.16%	0.0000000	0.0012652
2022	7	Jul-22	0.000000	0.001350	47.16%	52.84%	0.00%	0.0000000	0.0013682
2022	8	Aug-22	0.000000	0.001384	51.61%	48.39%	0.00%	0.0000000	0.0013184
2022	9	Sep-22	0.000000	0.001248	51.90%	48.10%	0.00%	0.0000000	0.0010823
2022	10	Oct-22	0.000000	0.000903	49.16%	50.69%	0.15%	0.0000006	0.0004440
2022	11	Nov-22	0.000000	0.000000	42.54%	57.46%	0.00%		
2022	12	Dec-22	0.000392	0.000000	48.39%	51.61%	0.00%		

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Small General Service Coefficients (Modeled with MWH)

		Model Coefficients			Monthly weights Model to calendar			Calendar Month		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future	HDD	CDD	Precip
2021	7	0.000000	0.000666	0.000000	50.23%	49.77%	0.00%	0.0000000	0.0007447	0.0000000
2021	8	0.000000	0.000824	0.000000	50.38%	49.62%	0.00%	0.0000000	0.0008304	0.0000000
2021	9	0.000000	0.000837	0.000000	50.48%	49.52%	0.00%	0.0000000	0.0007309	0.0000000
2021	10	0.000000	0.000623	0.000000	47.62%	51.92%	0.46%	0.0000006	0.0002964	0.0000000
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000776	0.0000000	0.0000000
2021	12	0.000131	0.000000	0.000000	46.70%	53.15%	0.15%	0.0001766	0.0000000	0.0000000
2022	1	0.000216	0.000000	0.000000	48.85%	50.38%	0.77%	0.0001779	0.0000000	0.0000000
2022	2	0.000141	0.000000	0.000000	40.48%	59.52%	0.00%	0.0001366	0.0000000	0.0000000
2022	3	0.000133	0.000000	0.000000	52.84%	47.16%	0.00%	0.0000705	0.0000000	0.0000000
2022	4	0.000000	0.000000	0.000000	49.21%	50.79%	0.00%	0.0000000	0.0000000	0.0000000
2022	5	0.000000	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0002965	0.0000000
2022	6	0.000000	0.000550	0.000000	51.27%	48.57%	0.16%	0.0000000	0.0006069	0.0000000
2022	7	0.000000	0.000666	0.000000	47.16%	52.84%	0.00%	0.0000000	0.0007496	0.0000000
2022	8	0.000000	0.000824	0.000000	51.61%	48.39%	0.00%	0.0000000	0.0008303	0.0000000
2022	9	0.000000	0.000837	0.000000	51.90%	48.10%	0.00%	0.0000000	0.0007339	0.0000000
2022	10	0.000000	0.000623	0.000000	49.16%	50.69%	0.15%	0.0000002	0.0003060	0.0000000
2022	11	0.000000	0.000000	0.000000	42.54%	57.46%	0.00%			
2022	12	0.000131	0.000000	0.000000	48.39%	51.61%	0.00%			

Southewestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Secondary General Service Coefficients (Modeled with MWH)

		Model Coefficients			Monthly weights Model to calendar		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future
2021	7	0.000000	137.328751	-1509.098038	50.23%	49.77%	0.00%
2021	8	0.000000	160.952177	-1509.098038	50.38%	49.62%	0.00%
2021	9	0.000000	153.782838	-1509.098038	50.48%	49.52%	0.00%
2021	10	0.000000	115.247690	0.000000	47.62%	51.92%	0.46%
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%
2021	12	36.850918	0.000000	0.000000	46.70%	53.15%	0.15%
2022	1	25.557703	0.000000	0.000000	48.85%	50.38%	0.77%
2022	2	0.000000	0.000000	0.000000	40.48%	59.52%	0.00%
2022	3	0.000000	0.000000	-8418.325689	52.84%	47.16%	0.00%
2022	4	0.000000	0.000000	-7640.919965	49.21%	50.79%	0.00%
2022	5	0.000000	0.000000	-1509.098038	46.08%	53.92%	0.00%
2022	6	0.000000	118.501921	-1509.098038	51.27%	48.57%	0.16%
2022	7	0.000000	0.000000	-1509.098038	47.16%	52.84%	0.00%
2022	8	0.000000	0.000000	-1509.098038	51.61%	48.39%	0.00%
2022	9	0.000000	0.000000	-1509.098038	51.90%	48.10%	0.00%
2022	10	0.000000	0.000000	0.000000	49.16%	50.69%	0.15%
2022	11	0.000000	0.000000	0.000000	42.54%	57.46%	0.00%
2022	12	0.000000	0.000000	0.000000	48.39%	51.61%	0.00%

Southwestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Secondary General Service Coefficients (Modeled with MWH)

	Calendar Month					
HDD	CDD	Precip	Actual Cust	HDD	CDD	Precip
0.0000000	149.0860323	-1509.0980378	12,181	0.0000000	0.0122392	-0.1238895
0.0000000	157.3950395	-1509.0980378	12,209	0.0000000	0.0128917	-0.1236054
0.0000000	134.6987645	-761.7352001	12,211	0.0000000	0.0110309	-0.0623811
0.1698199	54.8798523	0.0000000	12,228	0.0000139	0.0044880	0.0000000
21.7595895	0.0000000	0.0000000	12,224	0.0017801	0.0000000	0.0000000
30.7920804	0.0000000	0.0000000	12,227	0.0025184	0.0000000	0.0000000
12.4844081	0.0000000	-64.6568793	12,146	0.0010279	0.0000000	-0.0053233
0.0000000	0.0000000	-5010.9081480	12,152	0.0000000	0.0000000	-0.4123525
0.0000000	0.0000000	-8051.7150017	12,172	0.0000000	0.0000000	-0.6614948
0.0000000	0.0000000	-4526.3437480	12,190	0.0000000	0.0000000	-0.3713161
0.0000000	63.8927407	-1509.0980378	12,184	0.0000000	0.0052440	-0.1238590
0.0000000	60.7557467	-1509.0980378	12,186	0.0000000	0.0049857	-0.1238387
0.0000000	0.0000000	-1509.0980378				
0.0000000	0.0000000	-1509.0980378				
0.0000000	0.0000000	-783.2937435				
0.0000000	0.0000000	0.0000000				

Southewestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas CRMWA Coefficients (Modeled with MWH)

		Model Coefficients (Calendar)			Monthly weights Model to calendar			Revenue Month		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future	HDD	CDD	Precip
2021	7	0.000000	6.880442	0.000000	50.23%	49.77%	0.00%	0.0000000	6.5629855	0.0000000
2021	8	0.000000	6.562985	0.000000	50.38%	49.62%	0.00%	0.0000000	6.1040903	0.0000000
2021	9	0.000000	6.104090	0.000000	50.48%	49.52%	0.00%	0.0000000	0.0000000	0.0000000
2021	10	0.000000	0.000000	0.000000	47.62%	51.92%	0.46%	0.0000000	0.0000000	0.0000000
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000000	0.0000000	0.0000000
2021	12	0.000000	0.000000	0.000000	46.70%	53.15%	0.15%	0.0000000	0.0000000	0.0000000
2022	1	0.000000	0.000000	0.000000	48.85%	50.38%	0.77%	0.0000000	0.0000000	0.0000000
2022	2	0.000000	0.000000	0.000000	40.48%	59.52%	0.00%	0.0000000	0.0000000	0.0000000
2022	3	0.000000	0.000000	0.000000	52.84%	47.16%	0.00%	0.0000000	0.0000000	-158.3090479
2022	4	0.000000	0.000000	-158.309048	49.21%	50.79%	0.00%	0.0000000	0.0000000	-158.3090479
2022	5	0.000000	0.000000	-158.309048	46.08%	53.92%	0.00%	0.0000000	5.8751637	-158.3090479
2022	6	0.000000	5.875164	-158.309048	51.27%	48.57%	0.16%	0.0000000	6.8804422	-158.3090479
2022	7	0.000000	6.880442	-158.309048	47.16%	52.84%	0.00%	0.0000000	6.5629855	-158.3090479
2022	8	0.000000	6.562985	-158.309048	51.61%	48.39%	0.00%	0.0000000	6.1040903	-158.3090479
2022	9	0.000000	6.104090	-158.309048	51.90%	48.10%	0.00%	0.0000000	0.0000000	0.0000000
2022	10	0.000000	0.000000	0.000000	49.16%	50.69%	0.15%	0.0000000	0.0000000	0.0000000
2022	11	0.000000	0.000000	0.000000	42.54%	57.46%	0.00%	0.0000000	0.0000000	0.0000000
2022	12	0.000000	0.000000	0.000000	48.39%	51.61%	0.00%	0.0000000	0.0000000	0.0000000

Southewestern Public Service Company

Weather Normalization of Texas Retail Adjusted Base Period Sales

Texas Municipals and Schools Coefficients (Modeled with MWH)

		Model Coefficients			Monthly weights Model to calendar			Calendar Month		
Year	Month	HDD	CDD	Precip	Current	1st Future	2nd Future	HDD	CDD	Precip
2021	7	0.000000	0.000000	-0.071265	50.23%	49.77%	0.00%	0.0000000	0.0000000	-0.0712653
2021	8	0.000000	0.000000	-0.071265	50.38%	49.62%	0.00%	0.0000000	0.0000000	-0.0359063
2021	9	0.000000	0.000000	0.000000	50.48%	49.52%	0.00%	0.0000000	0.0000000	0.0000000
2021	10	0.000000	0.000000	0.000000	47.62%	51.92%	0.46%	0.0000000	0.0000000	0.0000000
2021	11	0.000000	0.000000	0.000000	40.95%	59.05%	0.00%	0.0000000	0.0000000	0.0000000
2021	12	0.000000	0.000000	0.000000	46.70%	53.15%	0.15%	0.0000000	0.0000000	0.0000000
2022	1	0.000000	0.000000	0.000000	48.85%	50.38%	0.77%	0.0000000	0.0000000	0.0000000
2022	2	0.000000	0.000000	0.000000	40.48%	59.52%	0.00%	0.0000000	0.0000000	0.0000000
2022	3	0.000000	0.000000	0.000000	52.84%	47.16%	0.00%	0.0000000	0.0000000	-0.1270799
2022	4	0.000000	0.000000	-0.269476	49.21%	50.79%	0.00%	0.0000000	0.0000000	-0.1325992
2022	5	0.000000	0.000000	0.000000	46.08%	53.92%	0.00%	0.0000000	0.0000000	-0.0384242
2022	6	0.000000	0.000000	-0.071265	51.27%	48.57%	0.16%	0.0000000	0.0000000	-0.0712653
2022	7	0.000000	0.000000	-0.071265	47.16%	52.84%	0.00%	0.0000000	0.0000000	-0.0712653
2022	8	0.000000	0.000000	-0.071265	51.61%	48.39%	0.00%	0.0000000	0.0000000	-0.0367821
2022	9	0.000000	0.000000	0.000000	51.90%	48.10%	0.00%	0.0000000	0.0000000	0.0000000
2022	10	0.000000	0.000000	0.000000	49.16%	50.69%	0.15%	0.0000000	0.0000000	0.0000000
2022	11	0.000000	0.000000	0.000000	42.54%	57.46%	0.00%			
2022	12	0.000000	0.000000	0.000000	48.39%	51.61%	0.00%			

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Base Year Peak Day Weather Variance from the 30-yr Average by Concept (Retail)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Summer 4-mth Avg
Norm Avg Peak Day Temperature	84.9	83.5	78.7	70.0	35.3	27.9	26.5	28.1	42.9	69.5	76.9	83.3	82.6
Act Avg Peak Day Temperature	82.1	85.7	81.2	74.8	39.5	41.0	21.9	22.9	29.4	72.8	82.2	89.3	84.6
Variance	-2.7	2.2	2.5	4.8	4.3	13.2	-4.6	-5.3	-13.5	3.2	5.3	6.0	2.0
% Variance	-3.2%	2.7%	3.2%	6.8%	12.1%	47.2%	-17.4%	-18.7%	-31.4%	4.7%	6.9%	7.2%	2.4%
Norm Peak Day Heating Degree Days	0.0	0.0	0.0	1.1	29.8	37.1	38.5	36.9	22.4	0.7	0.0	0.0	-
Act Peak Day Heating Degree Days	0.0	0.0	0.0	0.0	25.5	24.0	43.1	42.1	35.6	0.0	0.0	0.0	-
Variance	0.0	0.0	0.0	-1.1	-4.4	-13.2	4.6	5.3	13.2	-0.7	0.0	0.0	-
% Variance				-100.0%	-14.6%	-35.4%	12.0%	14.3%	58.7%	-100.0%			0.0%
Norm Precipitation for the week prior to the Peak Day	0.22	0.50	0.24	0.11	0.14	0.12	0.14	0.13	0.18	0.07	0.38	0.27	0.31
Act Precipitation for the week prior to the Peak Day	0.11	0.01	0.53	0.44	0.00	0.00	0.00	0.14	0.01	0.00	0.24	0.91	0.39
Variance	-0.11	-0.49	0.29	0.34	-0.14	-0.12	-0.14	0.01	-0.17	-0.07	-0.14	0.64	0.08
% Variance	-51.7%	-98.9%	116.7%	316.7%	-100.0%	-100.0%	-100.0%	7.4%	-93.8%	-100.0%	-36.2%	234.3%	25.6%

Test Year Peak Day Weather Variance from the 30-yr Average by Concept (Full Req Wholesale)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Summer 4-mth Avg
Norm Avg Peak Day Temperature	85.7	84.4	79.6	70.2	40.0	32.6	31.7	33.8	46.7	70.2	78.4	85.0	83.7
Act Avg Peak Day Temperature	81.0	86.0	80.5	74.0	40.0	45.0	29.5	27.5	33.0	73.0	81.5	91.5	84.8
Variance	-4.7	1.6	0.9	3.8	0.0	12.4	-2.2	-6.3	-13.7	2.8	3.2	6.5	1.1
% Variance	-5.5%	1.9%	1.2%	5.4%	0.0%	38.0%	-6.8%	-18.6%	-29.4%	3.9%	4.0%	7.6%	1.3%
Norm Peak Day Heating Degree Days	0.0	0.0	0.0	1.0	25.1	32.4	33.3	31.2	18.5	0.5	0.0	0.0	-
Act Peak Day Heating Degree Days	0.0	0.0	0.0	0.0	25.0	20.0	35.5	37.5	32.0	0.0	0.0	0.0	-
Variance	0.0	0.0	0.0	-1.0	-0.1	-12.4	2.2	6.3	13.5	-0.5	0.0	0.0	-
% Variance				-100.0%	-0.3%	-38.2%	6.5%	20.2%	73.3%	-100.0%			0.0%
Norm Precipitation for the week prior to the Peak Day	0.12	0.27	0.10	0.09	0.12	0.11	0.11	0.11	0.07	0.06	0.13	0.18	0.2
Act Precipitation for the week prior to the Peak Day	0.00	0.00	0.63	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Variance	-0.1	-0.3	0.5	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	(0.0)
% Variance	-100.0%	-100.0%	501.9%	57.3%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-6.2%

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Base Year Peak Day Weather Variance from the 30-yr Average by Concept (GSEC)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Summer 4-mth Avg
Norm Avg Peak Day Temperature	84.6	83.2	78.4	70.0	33.8	26.3	24.8	26.3	41.6	69.3	76.4	82.8	82.2
Act Avg Peak Day Temperature	82.5	85.6	81.4	75.0	39.4	39.7	19.4	21.4	28.3	72.7	82.4	88.6	84.5
Variance	-2.1	2.4	3.0	5.1	5.5	13.4	-5.4	-4.9	-13.4	3.4	6.0	5.9	2.3
% Variance	-2.5%	2.9%	3.8%	7.2%	16.4%	50.9%	-21.8%	-18.7%	-32.1%	4.9%	7.8%	7.1%	2.8%
Norm Precipitation for the week prior to the Peak Day	0.25	0.57	0.29	0.11	0.14	0.12	0.15	0.13	0.22	0.08	0.46	0.30	0.35
Act Precipitation for the week prior to the Peak Day	0.14	0.01	0.50	0.54	0.00	0.00	0.00	0.18	0.01	0.00	0.32	1.20	0.46
Variance	-0.11	-0.56	0.21	0.43	-0.14	-0.12	-0.15	0.05	-0.20	-0.08	-0.14	0.90	0.11
% Variance	-44.3%	-98.7%	72.2%	382.9%	-100.0%	-100.0%	-100.0%	35.8%	-93.1%	-100.0%	-30.7%	297.2%	30.5%

** the four month average is of July through September 2021 and June 2022*

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Base Year Peak Demand Weather Adjustment Summary by Customer Class
Summary Table of Retail Peak Weather Normal Adjustment

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	4-mth Avg *
WN Peak	3,408	3,445	3,474	2,856	2,761	2,888	2,883	3,106	2,827	3,042	3,218	3,515	3,460
Weather Adj	-26	60	5	23	-37	-127	43	47	90	27	72	-54	(4)
Actual Peak	3,382	3,505	3,479	2,880	2,723	2,761	2,926	3,153	2,917	3,069	3,290	3,460	3,457
Percent Chg	0.8%	-1.7%	-0.2%	-0.8%	1.4%	4.6%	-1.5%	-1.5%	-3.1%	-0.9%	-2.2%	1.6%	0.1%

Summary Table of Full Requirement Wholesale Peak Weather Normal Adjustment with Precipitation - Transmission Level

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	4-mth Avg *
WN Peak	358	384	400	301	318	372	333	330	309	362	457	125	317
Weather Adj	(15.04)	24.01	(27.55)	6.32	(0.17)	(38.60)	6.29	18.07	38.77	8.59	17.30	-	(5)
Actual Peak	343.08	408.07	372.58	307.02	318.16	333.23	339.47	347.60	348.08	371.06	474.51	125.00	312
Percent Chg	4.4%	-5.9%	7.4%	-2.1%	0.1%	11.6%	-1.9%	-5.2%	-11.1%	-2.3%	-3.6%	0.0%	1.5%

Summary Table of Full Requirement Wholesale Peak Weather Normal Adjustment with Precipitation - Production Level

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	4-mth Avg *
WN Peak	226	223	296	211	215	274	243	240	217	263	350	125	217
Weather Adj	(9.47)	13.95	(20.37)	4.42	(0.12)	(28.41)	4.59	13.19	27.19	6.23	13.26	-	(4)
Actual Peak	216.08	237.07	275.58	215.02	215.16	245.23	247.47	253.60	244.08	269.06	363.51	125.00	213
Percent Chg	4.4%	-5.9%	7.4%	-2.1%	0.1%	11.6%	-1.9%	-5.2%	-11.1%	-2.3%	-3.6%	0.0%	1.9%

Summary Table of Golden Spread Full Load Peak Weather Normal Adjustment

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	4-mth Avg *
WN Peak	1,267	1,321	1,201	654	606	635	581	588	700	1,013	1,005	1,270	1,265
Weather Adj	-15	40	12	4	0	0	0	0	-30	23	45	-55	(4)
Actual Peak	1,253	1,361	1,213	658	606	635	581	588	670	1,036	1,050	1,215	1,260
Percent Chg	1.2%	-2.9%	-1.0%	-0.5%	0.0%	0.0%	0.0%	0.0%	4.5%	-2.2%	-4.3%	4.5%	0.4%

** the four month average is of July through September 2021 and June 2022*

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Base Year Retail Peak Demand Weather Adjustment Detail
Actual Historical Retail Peak Demand (MW)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Base year	3,382	3,505	3,479	2,880	2,723	2,761	2,926	3,153	2,917	3,069	3,290	3,460

Average Temperature Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Average Temperature Normal	84.9	83.5	78.7	70.0	35.3	27.9	26.5	28.1	42.9	69.5	76.9	83.3
Average Temperature Actual	82.1	85.7	81.2	74.8	39.5	41.0	21.9	22.9	29.4	72.8	82.2	89.3
Variance from Normal	-2.7	2.2	2.5	4.8	4.3	13.2	-4.6	-5.3	-13.5	3.2	5.3	6.0
Average Temperature Weather Coefficients	12.07	12.26	9.64	4.94	0.00	0.00	0.00	0.00	0.00	4.03	8.61	11.39
Average Temperature Weather Adjustment (MW)	(33)	27	24	23	-	-	-	-	-	13	45	68

Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Heating Degree Days Normal	0.0	0.0	0.0	1.1	29.8	37.1	38.5	36.9	22.4	0.7	0.0	0.0
Heating Degree Days Actual	0.0	0.0	0.0	0.0	25.5	24.0	43.1	42.1	35.6	0.0	0.0	0.0
Variance from Normal	0.0	0.0	0.0	-1.1	-4.4	-13.2	4.6	5.3	13.2	-0.7	0.0	0.0
Heating Degree Days Weather Coefficients	0.00	0.00	0.00	0.00	8.56	9.66	9.34	8.90	6.84	0.00	0.00	0.00
Heating Degree Days Weather Adjustment (MW)	-	-	-	-	(37)	(127)	43	47	90	-	-	-

Precipitation 1 week before Peak Day Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Precipitation Normal	0.22	0.50	0.24	0.11	0.14	0.12	0.14	0.13	0.18	0.07	0.38	0.27
Precipitation Actual	0.11	0.01	0.53	0.44	0.00	0.00	0.00	0.14	0.01	0.00	0.24	0.91
Variance from Normal	-0.11	-0.49	0.29	0.34	-0.14	-0.12	-0.14	0.01	-0.17	-0.07	-0.14	0.64
Precipitation Weather Coefficients	-65.94	-65.94	-65.94	0.00	0.00	0.00	0.00	0.00	0.00	-193.46	-193.46	-193.46
Precipitation Weather Adjustment (MW)	7	33	(19)	-	-	-	-	-	-	14	27	(123)

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Test Year Full Requirement Wholesale Peak Demand Weather Adjustment Detail
Actual Historical Full Requirement Wholesale Peak Demand (MW)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Test year	343	408	373	307	318	333	339	348	348	371	475	125

Average Temperature Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Average Temperature Normal	85.7	84.4	79.6	70.2	40.0	32.6	31.7	33.8	46.7	70.2	78.4	85.0
Average Temperature Actual	81.0	86.0	80.5	74.0	40.0	45.0	29.5	27.5	33.0	73.0	81.5	91.5
Variance from Normal	-4.7	1.6	0.9	3.8	0.0	12.4	-2.2	-6.3	-13.7	2.8	3.2	6.5
Average Temperature Weather Coefficients	4.71	4.78	3.90	1.67	0.00	0.00	0.00	0.00	0.00	1.87	3.03	0.00
Average Temperature Weather Adjustment (MW)	(22.1)	7.8	3.6	6.3	-	-	-	-	-	5.2	9.5	-

Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Heating Degree Days Normal	0.0	0.0	0.0	1.0	25.1	32.4	33.3	31.2	18.5	0.5	0.0	0.0
Heating Degree Days Actual	0.0	0.0	0.0	0.0	25.0	20.0	35.5	37.5	32.0	0.0	0.0	0.0
Variance from Normal	-	-	-	(1.0)	(0.1)	(12.4)	2.2	6.3	13.5	(0.5)	-	-
Heating Degree Days Weather Coefficients	0.00	0.00	0.00	0.00	2.04	3.12	2.90	2.87	2.87	0.00	0.00	0.00
Heating Degree Days Weather Adjustment (MW)	-	-	-	-	(0.2)	(38.6)	6.3	18.1	38.8	-	-	-

Precipitation 1 week before Peak Day Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Precipitation Normal	0.12	0.27	0.10	0.09	0.12	0.11	0.11	0.11	0.07	0.06	0.13	0.18
Precipitation Actual	0.00	0.00	0.63	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variance from Normal	-0.12	-0.27	0.53	0.05	-0.12	-0.11	-0.11	-0.11	-0.07	-0.06	-0.13	-0.18
Precipitation Weather Coefficients	-59.36	-59.36	-59.36	0.00	0.00	0.00	0.00	0.00	0.00	-59.36	-59.36	0.00
Precipitation Weather Adjustment (MW)	7.1	16.2	(31.2)	-	-	-	-	-	-	3.4	7.8	-

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Test Year Full Requirement Wholesale Peak Demand Weather Adjustment Detail
Actual Historical Full Requirement Wholesale Peak Demand (MW)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Test year	216	237	276	215	215	245	247	254	244	269	364	125

Average Temperature Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Average Temperature Normal	85.7	84.4	79.6	70.2	40.0	32.6	31.7	33.8	46.7	70.2	78.4	85.0
Average Temperature Actual	81.0	86.0	80.5	74.0	40.0	45.0	29.5	27.5	33.0	73.0	81.5	91.5
Variance from Normal	-4.7	1.6	0.9	3.8	0.0	12.4	-2.2	-6.3	-13.7	2.8	3.2	6.5
Average Temperature Weather Coefficients	2.96	2.77	2.88	1.17	0.00	0.00	0.00	0.00	0.00	1.36	2.32	0.00
Average Temperature Weather Adjustment (MW)	(13.9)	4.5	2.7	4.4	-	-	-	-	-	3.8	7.3	-

Heating Degree Days Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Heating Degree Days Normal	0.0	0.0	0.0	1.0	25.1	32.4	33.3	31.2	18.5	0.5	0.0	0.0
Heating Degree Days Actual	0.0	0.0	0.0	0.0	25.0	20.0	35.5	37.5	32.0	0.0	0.0	0.0
Variance from Normal	0.0	0.0	0.0	-1.0	-0.1	-12.4	2.2	6.3	13.5	-0.5	0.0	0.0
Heating Degree Days Weather Coefficients	0.00	0.00	0.00	0.00	1.38	2.29	2.12	2.09	2.01	0.00	0.00	0.00
Heating Degree Days Weather Adjustment (MW)	-	-	-	-	(0.1)	(28.4)	4.6	13.2	27.2	-	-	-

Precipitation 1 week before Peak Day Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Precipitation Normal	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Precipitation Actual	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Variance from Normal	-0.1	-0.3	0.5	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2
Precipitation Weather Coefficients	-37.39	-34.49	-43.91	0.00	0.00	0.00	0.00	0.00	0.00	-43.05	-45.48	0.00
Precipitation Weather Adjustment (MW)	4.5	9.4	(23.1)	-	-	-	-	-	-	2	6	-

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Base Year Golden Spread Full Load Peak Demand Weather Adjustment Detail
Actual Historical Golden Spread Full Load Peak Demand (MW)

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Base year	1,253	1,361	1,213	658	606	635	581	588	670	1,036	1,050	1,215

Average Temperature Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Average Temperature Normal	84.6	83.2	78.4	70.0	33.8	26.3	24.8	26.3	41.6	69.3	76.4	82.8
Average Temperature Actual	82.5	85.6	81.4	75.0	39.4	39.7	19.4	21.4	28.3	72.7	82.4	88.6
Variance from Normal	-2.1	2.4	3.0	5.1	5.5	13.4	-5.4	-4.9	-13.4	3.4	6.0	5.9
Average Temperature Weather Coefficients	8.70	8.77	6.18	0.71	0.00	0.00	0.00	0.00	2.24	4.26	5.07	6.74
Average Temperature Weather Adjustment (MW)	(18)	21	19	4	-	-	-	-	(30)	14	30	39

Precipitation 1 week before Peak Day Weather Adjustment (30-yr normal)												
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Precipitation Normal	0.25	0.57	0.29	0.11	0.14	0.12	0.15	0.13	0.22	0.08	0.46	0.30
Precipitation Actual	0.14	0.01	0.50	0.54	0.00	0.00	0.00	0.18	0.01	0.00	0.32	1.20
Variance from Normal	-0.11	-0.56	0.21	0.43	-0.14	-0.12	-0.15	0.05	-0.20	-0.08	-0.14	0.90
Precipitation Weather Coefficients	-32.81	-32.81	-32.81	0.00	0.00	0.00	0.00	0.00	0.00	-104.75	-104.75	-104.75
Precipitation Weather Adjustment (MW)	4	19	(7)	-	-	-	-	-	-	8	15	(94)

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Retail Peak Demand

Model Coefficients

Year	Month	Date	PD_HDD	PD_Avg_Temp	Precip 1WKB4
2021	7	Jul-21	0.0000	12.0718	-65.9412
2021	8	Aug-21	0.0000	12.2614	-65.9412
2021	9	Sep-21	0.0000	9.6362	-65.9412
2021	10	Oct-21	0.0000	4.9417	0.0000
2021	11	Nov-21	8.5599	0.0000	0.0000
2021	12	Dec-21	9.6624	0.0000	0.0000
2022	1	Jan-22	9.3427	0.0000	0.0000
2022	2	Feb-22	8.8976	0.0000	0.0000
2022	3	Mar-22	6.8419	0.0000	0.0000
2022	4	Apr-22	0.0000	4.0271	-193.4598
2022	5	May-22	0.0000	8.6097	-193.4598
2022	6	Jun-22	0.0000	11.3921	-193.4598
2022	7	Jul-22	0.0000	12.0718	-65.9412
2022	8	Aug-22	0.0000	12.2614	-65.9412
2022	9	Sep-22	0.0000	9.6362	-65.9412
2022	10	Oct-22	0.0000	4.9417	0.0000
2022	11	Nov-22	8.5599	0.0000	0.0000
2022	12	Dec-22	9.6624	0.0000	0.0000

Full Req Wholesale Peak Demand

Model Coefficients

Year	Month	PD_HDD	PD_Avg_Temp	Precip 1WKB4
2021	7	0.0000	4.7063	-59.3641
2021	8	0.0000	4.7751	-59.3641
2021	9	0.0000	3.8998	-59.3641
2021	10	0.0000	1.6696	0.0000
2021	11	2.043767477	0.0000	0.0000
2021	12	3.117179929	0.0000	0.0000
2022	1	2.904305135	0.0000	0.0000
2022	2	2.868738416	0.0000	0.0000
2022	3	2.865069941	0.0000	0.0000
2022	4	0.0000	1.8738	-59.3641
2022	5	0.0000	3.0304	-59.3641
2022	6			
2022	7			
2022	8			
2022	9			
2022	10			
2022	11			
2022	12			

GSEC Full Load Peak Demand

Model Coefficients

Year	Month	PD_HDD	PD_Avg_Temp	Precip 1WKB4
2021	7	0.0000	8.6967	-32.8104
2021	8	0.0000	8.7661	-32.8104
2021	9	0.0000	6.1836	-32.8104
2021	10	0.0000	0.7070	0.0000
2021	11	0.0000	0.0000	0.0000
2021	12	0.0000	0.0000	0.0000
2022	1	0.0000	0.0000	0.0000
2022	2	0.0000	0.0000	0.0000
2022	3	0.0000	2.2418	0.0000
2022	4	0.0000	4.2622	-104.7450
2022	5	0.0000	5.0702	-104.7450
2022	6	0.0000	6.7352	-104.7450
2022	7	0.0000	8.6967	-32.8104
2022	8	0.0000	8.7661	-32.8104
2022	9	0.0000	6.1836	-32.8104
2022	10	0.0000	0.7070	0.0000
2022	11	0.0000	0.0000	0.0000
2022	12	0.0000	0.0000	0.0000

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Historical	Test Year	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
	Retail Peak	2,737	2,890	2,554	2,470	2,933	3,446	3,382	3,505	3,479	2,880	2,723	2,761	2,926	3,153	2,917	3,069	3,290	3,460
	Req. Peaks Production	212	233	242	222	237	235	216	237	276	215	215	245	247	254	244	269	364	125
	GSEC Peak	530	572	694	858	728	1,173	1,253	1,361	1,213	658	606	635	581	588	670	1,036	1,050	1,215
	LPL	172	172	172	172	172	122	130	138	116	106	65	77	90	71	84	51	137	142
	Rec Peak+LPL	384	405	414	394	409	357	346	375	392	321	280	322	337	325	328	320	501	267
	NM Coop Load Reduction	92	94	104	102	111	171	127	171	97	92	103	88	92	94	104	102	111	0
	Req. Peaks Transmission	304	327	346	324	348	406	343	408	373	307	318	333	339	348	348	371	475	125

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Max Ros Temp

Month	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	35.00	29.00	36.00	45.00	32.00	41.00	30.00	33.00	47.00	47.00	29.00	55.00	47.00	38.00	53.00	63.00	33.00	45.00	39.00	31.00	39.00	44.00	39.00	40.00	35.00	48.00	56.00	43.00
2	49.00	49.00	37.00	43.00	55.00	31.00	41.00	39.00	54.00	59.00	35.00	35.00	41.00	33.00	40.00	39.00	29.00	62.00	66.00	49.00	52.00	49.00	57.00	28.00	26.00	50.00	53.00	53.00
3	59.00	81.00	45.00	68.00	52.00	80.00	66.00	54.00	58.00	58.00	46.00	48.00	81.00	81.00	40.00	39.00	57.00	81.00	42.00	45.00	68.00	89.00	66.00	44.00	48.00	68.00	91.00	63.00
4	87.00	94.00	86.00	87.00	88.00	96.00	90.00	91.00	91.00	91.00	86.00	89.00	92.00	83.00	88.00	92.00	86.00	92.00	92.00	72.00	92.00	102.00	96.00	90.00	88.00	89.00	92.00	94.00
5	97.00	96.00	90.00	98.00	98.00	102.00	92.00	101.00	91.00	107.00	95.00	97.00	97.00	98.00	105.00	99.00	94.00	103.00	100.00	93.00	105.00	100.00	101.00	98.00	88.00	90.00	98.00	102.00
6	101.00	102.00	103.00	104.00	90.00	108.00	105.00	101.00	104.00	101.00	98.00	97.00	103.00	102.00	105.00	103.00	104.00	106.00	98.00	104.00	108.00	106.00	108.00	104.00	91.00	106.00	106.00	105.00
7	97.00	107.00	100.00	105.00	106.00	102.00	97.00	100.00	98.00	99.00	99.00	101.00	95.00	98.00	100.00	99.00	94.00	98.00	103.00	93.00	103.00	101.00	97.00	102.00	104.00	109.00	101.00	107.00
8	95.00	102.00	99.00	106.00	101.00	99.00	93.00	97.00	96.00	100.00	99.00	102.00	102.00	98.00	95.00	98.00	107.00	98.00	96.00	99.00	105.00	106.00	101.00	97.00	107.00	99.00	98.00	101.00
9	95.00	101.00	95.00	97.00	103.00	90.00	95.00	92.00	96.00	101.00	102.00	95.00	97.00	96.00	93.00	89.00	94.00	92.00	94.00	96.00	96.00	104.00	96.00	101.00	98.00	91.00	98.00	73.00
10	93.00	88.00	93.00	89.00	89.00	86.00	82.00	90.00	90.00	96.00	91.00	88.00	89.00	74.00	90.00	90.00	92.00	87.00	86.00	88.00	90.00	91.00	90.00	88.00	91.00	89.00	92.00	97.00
11	47.00	45.00	53.00	48.00	49.00	53.00	56.00	70.00	47.00	44.00	39.00	56.00	47.00	53.00	53.00	35.00	51.00	51.00	45.00	52.00	71.00	72.00	34.00	33.00	37.00	87.00	63.00	38.00
12	42.00	43.00	53.00	66.00	42.00	35.00	36.00	71.00	38.00	32.00	52.00	38.00	43.00	27.00	29.00	34.00	40.00	39.00	32.00	63.00	19.00	43.00	35.00	31.00	61.00	32.00	39.00	40.00
Grand Total	897.00	937.00	890.00	956.00	905.00	923.00	883.00	939.00	910.00	935.00	871.00	901.00	934.00	881.00	891.00	880.00	881.00	954.00	893.00	885.00	948.00	1,007.00	920.00	856.00	874.00	958.00	987.00	916.00

Min Ros Temp

Month	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	26.00	16.00	23.00	21.00	29.00	25.00	16.00	25.00	31.00	28.00	24.00	27.00	25.00	20.00	32.00	12.00	20.00	24.00	18.00	20.00	13.00	27.00	17.00	21.00	23.00	22.00	19.00	9.00
2	33.00	35.00	29.00	13.00	33.00	23.00	25.00	34.00	18.00	15.00	27.00	15.00	25.00	21.00	31.00	23.00	23.00	18.00	16.00	24.00	13.00	21.00	24.00	18.00	19.00	14.00	26.00	22.00
3	41.00	36.00	29.00	37.00	38.00	34.00	36.00	21.00	40.00	41.00	36.00	35.00	36.00	40.00	32.00	28.00	21.00	48.00	36.00	29.00	28.00	44.00	25.00	22.00	26.00	29.00	48.00	24.00
4	45.00	57.00	60.00	53.00	53.00	51.00	56.00	47.00	52.00	55.00	49.00	49.00	47.00	49.00	41.00	53.00	48.00	49.00	51.00	28.00	51.00	53.00	53.00	62.00	47.00	46.00	52.00	54.00
5	64.00	54.00	58.00	65.00	61.00	64.00	56.00	58.00	53.00	63.00	65.00	65.00	56.00	61.00	64.00	59.00	56.00	59.00	56.00	56.00	67.00	52.00	70.00	54.00	47.00	56.00	56.00	66.00
6	72.00	58.00	69.00	79.00	63.00	67.00	67.00	66.00	65.00	65.00	70.00	68.00	69.00	61.00	68.00	68.00	65.00	68.00	70.00	72.00	66.00	69.00	69.00	66.00	65.00	67.00	72.00	68.00
7	72.00	68.00	68.00	65.00	68.00	74.00	70.00	67.00	67.00	72.00	72.00	70.00	68.00	74.00	72.00	73.00	69.00	66.00	71.00	65.00	72.00	68.00	72.00	68.00	69.00	70.00	72.00	75.00
8	70.00	68.00	70.00	72.00	74.00	70.00	68.00	66.00	65.00	63.00	67.00	72.00	72.00	68.00	65.00	72.00	69.00	67.00	66.00	66.00	71.00	74.00	70.00	69.00	65.00	72.00	64.00	68.00
9	64.00	59.00	66.00	53.00	68.00	63.00	60.00	64.00	64.00	66.00	64.00	65.00	60.00	62.00	63.00	64.00	70.00	60.00	63.00	66.00	63.00	67.00	63.00	63.00	68.00	65.00	65.00	59.00
10	52.00	49.00	51.00	52.00	48.00	50.00	57.00	56.00	47.00	57.00	51.00	61.00	48.00	50.00	61.00	51.00	62.00	50.00	50.00	54.00	56.00	47.00	50.00	56.00	52.00	48.00	60.00	64.00
11	41.00	28.00	28.00	36.00	31.00	26.00	24.00	42.00	28.00	29.00	24.00	23.00	39.00	39.00	27.00	19.00	28.00	34.00	35.00	15.00	27.00	28.00	27.00	23.00	30.00	47.00	27.00	24.00
12	37.00	23.00	24.00	34.00	29.00	16.00	22.00	39.00	25.00	23.00	29.00	24.00	24.00	17.00	11.00	29.00	38.00	21.00	23.00	23.00	4.00	12.00	20.00	13.00	23.00	27.00	25.00	23.00
Grand Total	617.00	551.00	575.00	580.00	595.00	563.00	557.00	585.00	555.00	577.00	578.00	574.00	569.00	562.00	567.00	551.00	569.00	564.00	555.00	518.00	531.00	562.00	560.00	535.00	534.00	563.00	586.00	556.00

Avg Ros Temp

Month	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	30.50	22.50	29.50	33.00	30.50	33.00	23.00	29.00	39.00	37.50	26.50	41.00	36.00	29.00	42.50	37.50	26.50	34.50	28.50	25.50	26.00	35.50	28.00	30.50	29.00	35.00	37.50	26.00
2	41.00	42.00	33.00	28.00	44.00	27.00	33.00	36.50	36.00	37.00	31.00	25.00	33.00	27.00	35.50	31.00	26.00	40.00	41.00	36.50	32.50	35.00	40.50	23.00	22.50	32.00	39.50	37.50
3	50.00	58.50	37.00	52.50	45.00	57.00	51.00	37.50	49.00	49.50	41.00	41.50	58.50	60.50	36.00	33.50	39.00	64.50	39.00	37.00	48.00	66.50	45.50	33.00	37.00	48.50	69.50	43.50
4	66.00	75.50	73.00	70.00	70.50	73.50	73.00	69.00	71.50	73.00	67.50	69.00	69.50	66.00	64.50	72.50	67.00	70.50	71.50	50.00	71.50	77.50	74.50	76.00	67.50	67.50	72.00	74.00
5	80.50	75.00	74.00	81.50	79.50	83.00	74.00	79.50	72.00	85.00	80.00	81.00	76.50	79.50	84.50	79.00	75.00	81.00	78.00	74.50	86.00	76.00	85.50	76.00	67.50	73.00	77.00	84.00
6	86.50	80.00	86.00	91.50	76.50	87.50	86.00	83.50	84.50	83.00	84.00	82.50	86.00	81.50	86.50	85.50	84.50	87.00	84.00	88.00	87.00	87.50	88.50	85.00	78.00	86.50	89.00	86.50
7	84.50	87.50	84.00	85.00	87.00	88.00	83.50	83.50	82.50	85.50	85.50	85.50	81.50	86.00	86.00	86.00	81.50	82.00	87.00	79.00	87.50	84.50	84.50	85.00	86.50	89.50	86.50	91.00
8	82.50	85.00	84.50	89.00	87.50	84.50	80.50	81.50	80.50	81.50	83.00	87.00	87.00	83.00	80.00	85.00	88.00	82.50	81.00	82.50	88.00	90.00	85.50	83.00	86.00	85.50	81.00	84.50
9	79.50	80.00	80.50	75.00	85.50	76.50	77.50	78.00	80.00	83.50	83.00	80.00	78.50	79.00	78.00	76.50	82.00	76.00	78.50	81.00	79.50	85.50	79.50	82.00	83.00	78.00	81.50	66.00
10	72.50	68.50	72.00	70.50	68.50	68.00	69.50	73.00	68.50	76.50	71.00	74.50	68.50	62.00	75.50	70.50	77.00	68.50	68.00	71.00	73.00	69.00	70.00	72.00	71.50	68.50	76.00	80.50
11	44.00	36.50	40.50	42.00	40.00	39.50	40.00	56.00	37.50	36.50	31.50	39.50	43.00	46.00	40.00	27.00	39.50	42.50	40.00	33.50	49.00	50.00	30.50	28.00	33.50	67.00	45.00	31.00
12	39.50	33.00	38.50	50.00	35.50	25.50	29.00	55.00	31.50	27.50	40.50	31.00	33.50	22.00	20.00	31.50	39.00	30.00	27.50	43.00	11.50	27.50	27.50	22.00	42.00	29.50	32.00	31.50
Grand Total	757.00	744.00	732.50	768.00	750.00	743.00	720.00	762.00	732.50	756.00	724.50	737.50	751.50	721.50	729.00	715.50	725.00	759.00	724.00	701.50	739.50	784.50	740.00	695.50	704.00	760.50	786.50	736.00

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Max Ros Temp

Month	2019	2020	2021	2022
1	32.00	45.00	50.00	36.00
2	44.00	56.00	33.00	39.00
3	31.00	56.00	66.00	42.00
4	97.00	95.00	63.00	96.00
5	89.00	92.00	99.00	100.00
6	97.00	104.00	100.00	111.00
7	108.00	108.00	95.00	
8	99.00	105.00	105.00	
9	97.00	97.00	97.00	
10	56.00	97.00	95.00	
11	44.00	52.00	53.00	
12	51.00	51.00	71.00	
Grand Total	845.00	958.00	927.00	424.00

Min Ros Temp

Month	2019	2020	2021	2022
1	22.00	36.00	19.00	23.00
2	17.00	19.00	25.00	16.00
3	22.00	37.00	26.00	24.00
4	47.00	48.00	50.00	50.00
5	62.00	62.00	60.00	63.00
6	68.00	67.00	74.00	72.00
7	77.00	77.00	67.00	
8	71.00	68.00	67.00	
9	64.00	69.00	64.00	
10	18.00	53.00	53.00	
11	24.00	21.00	27.00	
12	20.00	22.00	19.00	
Grand Total	512.00	579.00	551.00	248.00

Avg Ros Temp

Month	2019	2020	2021	2022
1	27.00	40.50	34.50	29.50
2	30.50	37.50	29.00	27.50
3	26.50	46.50	46.00	33.00
4	72.00	71.50	56.50	73.00
5	75.50	77.00	79.50	81.50
6	82.50	85.50	87.00	91.50
7	92.50	92.50	81.00	
8	85.00	86.50	86.00	
9	80.50	83.00	80.50	
10	37.00	75.00	74.00	
11	34.00	36.50	40.00	
12	35.50	36.50	45.00	
Grand Total	678.50	768.50	739.00	336.00

	1991-2020 Normals	1992-2021 Normals		Actual	1991-2020 Normal	1992-2021 Normal
jan	31.67	31.80	Jul-21	81.00	85.70	85.58
feb	33.80	33.40	Aug-21	86.00	84.37	84.48
mar	46.73	46.60	Sep-21	80.50	79.57	79.60
apr	70.23	69.92	Oct-21	74.00	70.22	70.27
may	78.35	78.32	Nov-21	40.00	39.98	39.85
jun	85.02	85.03	Dec-21	45.00	32.62	32.80
jul	85.70	85.58	Jan-22	29.50	31.67	31.80
aug	84.37	84.48	Feb-22	27.50	33.80	33.40
sep	79.57	79.60	Mar-22	33.00	46.73	46.60
oct	70.22	70.27	Apr-22	73.00	70.23	69.92
nov	39.98	39.85	May-22	81.50	78.35	78.32
dec	32.62	32.80	Jun-22	91.50	85.02	85.03
Total	738.25	737.65		742.50	738.25	737.65

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Precip+1wkB4

Month	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	0.13	0.72	0.06	0.00	0.00	0.00	0.31	0.00	0.08	0.00	0.14	0.00	0.00	0.00	0.26	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.25	0.11	0.28	0.07
2	0.27	0.01	0.06	0.03	0.05	0.00	0.74	0.00	0.00	0.00	0.38	0.00	0.42	0.00	0.36	0.00	0.14	0.00	0.00	0.00	0.09	0.00	0.00	0.01	0.40	0.00	0.00	0.00
3	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.05	0.15	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.05	0.42	0.00	0.00	0.00
4	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.24	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	1.21	0.00
5	0.61	0.08	0.15	0.43	0.00	0.00	0.06	0.00	0.00	0.00	1.23	0.00	0.39	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.00
6	0.28	0.00	0.00	0.00	0.01	0.73	0.02	0.00	0.00	0.95	0.20	1.47	0.31	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.05	0.00	0.22	0.00	0.00	0.00
7	0.21	0.00	0.12	0.02	0.00	0.27	0.00	0.21	0.00	0.04	0.00	0.09	0.28	0.01	0.00	0.02	0.02	0.08	0.01	1.32	0.20	0.00	0.01	0.41	0.11	0.00	0.00	0.14
8	0.54	0.79	0.53	0.36	0.00	0.62	1.80	0.10	0.00	0.01	0.00	0.00	0.00	0.18	0.14	0.25	0.00	0.04	0.87	0.42	0.04	0.00	0.00	0.29	0.03	0.00	0.58	0.52
9	0.12	0.06	0.00	0.00	0.00	0.05	0.00	0.11	0.00	0.00	0.21	0.06	0.00	0.00	0.00	0.00	0.00	0.66	0.01	0.38	0.00	0.00	0.00	0.07	0.11	0.78	0.00	0.52
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.01	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	1.44	0.01
11	0.06	0.08	0.00	0.00	0.00	0.00	0.24	0.00	0.00	1.20	0.07	0.00	0.02	0.10	0.01	0.04	0.51	0.00	0.36	0.00	0.30	0.00	0.00	0.00	0.12	0.00	0.00	0.01
12	0.65	0.03	0.00	0.06	0.00	0.00	0.05	0.10	0.00	0.00	0.05	0.00	0.02	0.34	0.00	0.00	0.00	0.09	0.81	0.00	0.62	0.03	0.00	0.02	0.22	0.18	0.00	0.06
Grand Total	2.87	1.85	0.93	0.90	0.06	1.67	3.28	0.62	0.23	2.20	2.55	2.30	1.44	0.63	0.84	0.31	1.13	0.87	2.38	2.47	1.25	0.03	0.40	0.96	2.97	1.07	3.51	1.33

Peak Day HDD

Month	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	34.50	42.50	35.50	32.00	34.50	32.00	42.00	36.00	26.00	27.50	38.50	24.00	29.00	36.00	22.50	27.50	38.50	30.50	36.50	39.50	39.00	29.50	37.00	34.50	36.00	30.00	27.50	39.00
2	24.00	23.00	32.00	37.00	21.00	38.00	32.00	28.50	29.00	28.00	34.00	40.00	32.00	38.00	29.50	34.00	39.00	25.00	24.00	28.50	32.50	30.00	24.50	42.00	42.50	33.00	25.50	27.50
3	15.00	6.50	28.00	12.50	20.00	8.00	14.00	27.50	16.00	15.50	24.00	23.50	6.50	4.50	29.00	31.50	26.00	0.50	26.00	28.00	17.00	0.00	19.50	32.00	28.00	16.50	0.00	21.50
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	21.00	28.50	24.50	23.00	25.00	25.50	25.00	9.00	27.50	28.50	33.50	25.50	22.00	19.00	25.00	38.00	25.50	22.50	25.00	31.50	16.00	15.00	34.50	37.00	31.50	0.00	20.00	34.00
12	25.50	32.00	26.50	15.00	29.50	39.50	36.00	10.00	33.50	37.50	24.50	34.00	31.50	43.00	45.00	33.50	26.00	35.00	37.50	22.00	53.50	37.50	37.50	43.00	23.00	35.50	33.00	33.50
Grand Total	120.00	132.50	146.50	119.50	130.00	143.00	149.00	111.00	132.00	137.00	154.50	147.00	121.00	143.50	151.50	164.50	155.00	113.50	149.00	164.50	158.00	112.00	153.00	188.50	161.00	115.00	106.00	155.50

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Precip+1wkB4							1991-2020	1992-2021			1991-2020	1992-2021
Month		2019	2020	2021	2022		Normals	Normals		Actual	Normal	Normal
	1	0.35	0.04	0.08	0.00	jan	0.11	0.11	Jul-21	0.00	0.12	0.11
	2	0.00	0.28	0.00	0.00	feb	0.11	0.10	Aug-21	0.00	0.27	0.26
	3	0.00	1.02	0.06	0.00	mar	0.07	0.07	Sep-21	0.63	0.10	0.12
	4	0.00	0.00	0.00	0.00	apr	0.06	0.06	Oct-21	0.14	0.09	0.09
	5	0.01	0.00	0.04	0.00	may	0.13	0.11	Nov-21	0.00	0.12	0.12
	6	0.32	0.37	0.02	0.00	jun	0.18	0.17	Dec-21	0.00	0.11	0.09
	7	0.01	0.00	0.00		jul	0.12	0.11	Jan-22	0.00	0.11	0.11
	8	0.06	0.02	0.00		aug	0.27	0.26	Feb-22	0.00	0.11	0.10
	9	0.00	0.00	0.63		sep	0.10	0.12	Mar-22	0.00	0.07	0.07
	10	0.00	0.00	0.14		oct	0.09	0.09	Apr-22	0.00	0.06	0.06
	11	0.40	0.01	0.00		nov	0.12	0.12	May-22	0.00	0.13	0.11
	12	0.00	0.00	0.00		dec	0.11	0.09	Jun-22	0.00	0.18	0.17
Grand Total		1.15	1.74	0.97	0.00	Total	1.46	1.40		0.77	1.46	1.40

Peak Day HDD							1991-2020	1992-2021			1991-2020	1992-2021
Month		2019	2020	2021	2022		Normals	Normals		Actual	Normal	Normal
	1	38.00	24.50	30.50	35.50	jan	33.33	33.20	Jul-21	0.00	0.00	0.00
	2	34.50	27.50	36.00	37.50	feb	31.20	31.60	Aug-21	0.00	0.00	0.00
	3	38.50	18.50	19.00	32.00	mar	18.47	18.60	Sep-21	0.00	0.00	0.00
	4	0.00	0.00	8.50	0.00	apr	0.52	0.80	Oct-21	0.00	1.03	1.03
	5	0.00	0.00	0.00	0.00	may	0.00	0.00	Nov-21	25.00	25.08	25.22
	6	0.00	0.00	0.00	0.00	jun	0.00	0.00	Dec-21	20.00	32.38	32.20
	7	0.00	0.00	0.00		jul	0.00	0.00	Jan-22	35.50	33.33	33.20
	8	0.00	0.00	0.00		aug	0.00	0.00	Feb-22	37.50	31.20	31.60
	9	0.00	0.00	0.00		sep	0.00	0.00	Mar-22	32.00	18.47	18.60
	10	28.00	0.00	0.00		oct	1.03	1.03	Apr-22	0.00	0.52	0.80
	11	31.00	28.50	25.00		nov	25.08	25.22	May-22	0.00	0.00	0.00
	12	29.50	28.50	20.00		dec	32.38	32.20	Jun-22	0.00	0.00	0.00
Grand Total		199.50	127.50	139.00	105.00	Total	142.02	142.65		150.00	142.02	142.65

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Peak Day Weather

Max SPS Temp	Year																					
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	28.16	27.84	34.90	41.30	27.26	27.31	35.42	34.63	27.26	30.98	29.96	39.99	46.09	42.67	28.83	43.68	40.01	32.14	36.38	55.29	26.96	40.46
2	33.16	49.84	15.34	40.24	49.19	47.14	20.77	36.42	44.44	20.27	41.39	42.22	54.76	59.37	31.41	34.63	23.06	28.11	35.09	32.23	21.47	55.98
3	52.09	34.68	81.19	56.73	58.09	76.32	33.49	57.40	44.47	72.24	66.18	52.47	43.87	49.96	35.62	50.66	68.21	81.76	35.69	32.98	54.38	78.94
4	82.33	85.28	92.61	87.43	86.83	90.60	80.51	84.94	88.95	94.68	80.59	89.70	85.74	86.85	84.31	89.56	89.19	81.12	85.57	90.68	77.52	91.63
5	86.53	89.51	100.14	96.14	92.67	95.44	88.86	95.17	95.75	102.02	90.87	101.19	86.88	103.45	92.92	95.49	98.15	97.63	97.47	95.45	87.77	98.11
6	100.44	96.38	92.95	106.61	95.90	95.58	97.72	100.23	89.46	105.92	100.46	98.90	96.08	97.23	96.68	96.24	95.84	101.24	99.33	99.97	96.45	98.10
7	98.41	93.14	100.82	96.87	98.32	103.04	96.99	101.06	103.55	99.92	94.55	101.13	98.02	98.05	98.24	100.07	96.51	94.23	98.86	97.87	92.47	97.46
8	96.73	91.26	100.66	99.32	95.76	97.85	94.67	104.29	96.46	94.48	91.87	96.05	94.68	100.74	98.81	99.73	100.31	96.49	94.05	96.51	101.29	97.26
9	89.76	91.80	94.44	96.39	94.24	96.28	92.36	95.51	99.43	86.60	90.69	95.38	93.54	101.76	95.75	91.80	91.14	93.34	92.81	82.94	98.15	86.18
10	91.12	90.19	91.44	82.44	92.24	87.24	88.48	88.09	86.17	86.39	89.76	88.66	88.68	98.47	90.03	83.67	87.51	81.59	86.60	89.05	90.49	83.60
11	51.11	51.96	45.67	32.48	38.92	37.86	34.71	39.52	47.86	47.90	43.15	55.29	46.63	37.59	31.66	57.71	41.56	51.52	45.08	29.72	54.42	47.80
12	30.89	41.24	25.86	19.07	38.80	31.70	50.75	51.17	35.79	29.93	30.72	57.37	33.30	24.24	51.07	34.43	32.46	22.28	19.78	32.87	35.65	23.94
Grand Total	840.72	843.12	876.01	855.01	868.21	886.35	814.72	888.43	859.58	871.33	850.19	918.35	868.26	900.37	835.32	877.67	863.94	861.45	826.71	835.57	837.01	899.45
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Min SPS Temp	Year																					
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	14.91	18.71	13.69	29.02	18.27	14.51	19.80	18.59	22.58	10.83	12.60	24.63	29.31	22.91	24.58	22.69	18.01	5.85	21.27	14.66	11.32	16.26
2	29.60	13.00	2.12	21.79	29.06	33.33	13.53	6.24	24.32	12.62	23.14	28.51	17.44	18.80	20.40	11.41	10.66	16.87	30.44	14.15	12.44	13.65
3	13.26	21.64	46.35	30.30	39.68	39.79	17.49	30.23	34.23	30.80	33.19	16.26	33.58	39.33	30.33	35.97	33.17	42.12	30.87	23.13	22.13	43.17
4	54.43	48.63	54.90	46.76	46.92	56.46	54.33	52.65	54.15	51.02	47.54	52.53	52.00	50.48	55.08	55.83	53.25	46.38	48.80	54.34	47.81	53.00
5	54.85	61.38	63.02	64.73	63.26	58.37	57.46	65.00	59.89	63.63	60.37	65.22	57.56	63.62	60.63	61.22	65.63	63.29	65.36	57.16	58.66	61.13
6	64.64	63.80	64.28	67.55	69.34	61.44	69.19	68.27	63.58	67.80	67.78	69.24	68.24	65.60	66.06	65.54	69.21	64.42	69.16	66.12	63.70	66.14
7	62.70	66.64	69.25	69.92	70.12	69.16	67.26	65.39	68.04	71.17	69.63	67.02	68.18	65.96	72.19	70.37	65.94	68.53	71.24	70.94	64.65	64.12
8	70.34	67.83	71.19	66.95	66.41	67.63	69.07	69.38	72.47	71.90	67.07	66.58	61.99	65.27	66.44	70.49	69.77	70.83	65.00	71.09	69.58	66.24
9	59.34	57.31	66.24	68.22	62.31	63.76	67.15	52.46	67.26	60.73	63.03	66.06	63.83	65.44	63.63	63.14	62.47	64.47	61.51	62.89	69.63	56.95
10	50.31	52.12	52.00	46.17	53.53	47.89	53.48	50.68	46.12	52.31	58.90	59.22	52.53	54.77	55.39	60.09	49.51	50.39	61.41	58.76	62.78	46.06
11	22.14	25.30	25.43	27.43	28.73	23.48	18.02	30.35	20.07	21.09	21.36	35.79	22.72	27.12	20.99	23.76	35.43	34.48	21.53	13.74	23.26	29.09
12	-1.50	27.75	3.37	3.25	31.16	20.94	21.19	30.23	28.09	12.97	18.60	25.43	23.66	13.39	30.53	22.89	21.36	8.17	5.91	28.83	29.89	13.08
Grand Total	495.02	524.11	531.85	542.07	578.80	556.74	527.96	539.46	560.79	526.85	543.20	576.49	551.04	552.69	566.25	563.38	554.40	535.77	552.50	535.80	535.84	528.88

Avg SPS Temp	Year																					
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	21.54	23.27	24.30	35.16	22.76	20.91	27.61	26.61	24.92	20.91	21.28	32.31	37.70	32.79	26.70	33.19	29.01	18.99	28.82	34.98	19.14	28.36
2	31.38	31.42	8.73	31.01	39.13	40.23	17.15	21.33	34.38	16.44	32.26	35.36	36.10	39.09	25.90	23.02	16.86	22.49	32.76	23.19	16.95	34.82
3	32.68	28.16	63.77	43.51	48.88	58.05	25.49	43.81	39.35	51.52	49.68	34.37	38.72	44.65	32.97	43.31	50.69	61.94	33.28	28.05	38.25	61.05
4	68.38	66.96	73.76	67.09	66.87	73.53	67.42	68.80	71.55	72.85	64.06	71.12	68.87	68.66	69.69	72.70	71.22	63.75	67.19	72.51	62.66	72.31
5	70.69	75.44	81.58	80.43	77.97	76.90	73.16	80.08	77.82	82.83	75.62	83.21	72.22	83.53	76.78	78.35	81.89	80.46	81.41	76.30	73.21	79.62
6	82.54	80.09	78.62	87.08	82.62	78.51	83.46	84.25	76.52	86.86	84.12	84.07	82.16	81.42	81.37	80.89	82.53	82.83	84.25	83.04	80.07	82.12
7	80.55	79.89	85.03	83.40	84.22	86.10	82.13	83.22	85.80	85.54	82.09	84.07	83.10	82.01	85.22	85.22	81.23	81.38	85.05	84.41	78.56	80.79
8	83.53	79.54	85.93	83.14	81.08	82.74	81.87	86.84	84.46	83.19	79.47	81.32	78.34	83.00	82.62	85.11	85.04	83.66	79.52	83.80	85.44	81.75
9	74.55	74.55	80.34	82.30	78.28	80.02	79.75	73.98	83.35	73.67	76.86	80.72	78.68	83.60	79.69	77.47	76.80	78.90	77.16	72.92	83.89	71.56
10	70.71	71.15	71.72	64.31	72.89	67.57	70.98	69.38	66.14	69.35	74.33	73.94	70.61	76.62	72.71	71.88	68.51	65.99	74.01	73.91	76.63	64.83
11	36.62	38.63	35.55	29.95	33.83	30.67	26.37	34.93	33.96	34.49	32.26	45.54	34.68	32.36	26.33	40.73	38.50	43.00	33.30	21.73	38.84	38.44
12	14.69	34.50	14.62	11.16	34.98	26.32	35.97	40.70	31.94	21.45	24.66	41.40	28.48	18.81	40.80	28.66	26.91	15.23	12.85	30.85	32.77	18.51
Grand Total	667.87	683.61	703.93	698.54	723.50	721.55	671.34	713.94	710.19	699.09	696.69	747.42	709.65	726.53	700.79	720.52	709.17	698.61	689.60	685.68	686.43	714.17

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Peak Day Weather

Max SPS Temp

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	25.02	26.09	38.05	45.50	34.28	35.28	35.18	47.63	34.71	44.13	23.71	38.61	50.12	27.69
2	60.90	31.82	40.14	48.81	45.30	19.54	21.28	48.87	45.45	46.21	39.07	49.77	23.55	34.87
3	36.90	38.96	62.53	88.26	64.29	42.64	42.58	65.19	90.83	59.60	26.11	49.96	62.43	39.92
4	84.68	69.92	88.80	100.70	96.18	89.44	85.75	86.75	90.68	93.63	90.96	91.41	50.34	94.12
5	95.50	88.48	101.99	96.45	96.87	97.83	82.16	85.87	91.98	99.19	82.01	88.39	90.30	100.76
6	96.31	100.22	108.56	104.10	105.54	101.55	89.86	101.83	101.83	102.73	96.61	101.36	99.24	107.22
7	102.24	92.05	102.61	101.93	97.56	100.49	97.77	106.55	99.66	105.49	103.26	108.58	96.32	
8	97.51	96.73	102.73	105.81	103.47	101.35	100.01	97.12	92.16	99.29	97.86	104.61	103.47	
9	92.87	96.37	95.61	100.78	95.81	97.99	94.97	90.63	95.55	88.33	94.17	91.14	97.93	
10	77.73	85.54	87.55	89.66	90.02	84.23	88.75	87.68	85.21	94.15	54.49	94.15	92.73	
11	48.61	47.67	54.00	72.19	27.40	25.08	32.11	84.94	61.68	32.35	46.23	52.76	52.44	
12	26.70	60.92	21.68	40.92	25.20	29.51	59.87	27.67	29.39	31.69	54.59	44.59	61.33	
Grand Total	844.97	834.76	904.25	995.10	881.90	824.92	830.28	930.73	919.12	896.78	809.07	915.33	880.20	404.57

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Min SPS Temp

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	9.54	13.23	5.84	24.20	16.26	10.62	19.43	21.44	12.03	8.83	16.55	28.64	15.58	16.03
2	15.05	21.38	3.20	15.14	21.75	8.00	13.72	15.53	20.35	18.62	10.59	13.33	14.42	10.91
3	30.72	23.72	26.68	51.03	25.76	8.78	21.65	32.63	47.86	22.49	13.13	31.91	30.74	18.91
4	55.02	26.68	54.26	58.88	58.84	60.12	47.00	45.84	55.80	51.40	48.71	47.46	43.96	51.40
5	58.48	60.74	59.64	57.32	61.34	60.66	47.97	50.55	54.89	61.30	55.40	55.96	62.08	63.58
6	67.19	71.44	69.61	72.79	70.53	68.83	61.23	68.90	69.55	72.56	64.84	69.87	71.55	71.48
7	72.15	66.90	76.17	71.57	72.76	71.98	68.09	74.00	72.78	74.48	76.44	76.49	67.95	
8	68.85	66.95	72.90	75.69	70.97	68.83	68.24	70.89	62.91	69.73	68.73	68.23	67.99	
9	63.02	65.63	64.69	69.68	63.95	65.12	64.78	64.48	60.09	63.77	64.39	61.64	64.41	
10	46.43	53.63	57.15	50.45	56.27	59.05	55.61	48.62	58.52	65.90	15.36	54.69	56.82	
11	26.30	19.35	21.53	27.26	22.48	17.16	25.11	51.37	28.34	19.87	12.68	20.05	26.63	
12	18.48	24.88	4.97	10.12	15.67	7.55	27.15	18.34	16.13	21.33	15.67	16.53	20.71	
Grand Total	531.22	514.52	516.63	584.12	556.58	506.68	519.98	562.59	559.27	550.27	462.48	544.81	542.84	232.31

Avg SPS Temp

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	17.28	19.66	21.94	34.85	25.27	22.95	27.30	34.53	23.37	26.48	20.13	33.63	32.85	21.86
2	37.97	26.60	21.67	31.97	33.52	13.77	17.50	32.20	32.90	32.41	24.83	31.55	18.98	22.89
3	33.81	31.34	44.60	69.64	45.02	25.71	32.12	48.91	69.34	41.04	19.62	40.94	46.58	29.42
4	69.85	48.30	71.53	79.79	77.51	74.78	66.37	66.30	73.24	72.51	69.84	69.43	47.15	72.76
5	76.99	74.61	80.82	76.88	79.10	79.24	65.06	68.21	73.44	80.24	68.71	72.18	76.19	82.17
6	81.75	85.83	89.09	88.44	88.03	85.19	75.54	85.36	85.69	87.65	80.72	85.62	85.40	89.35
7	87.19	79.48	89.39	86.75	85.16	86.23	82.93	90.28	86.22	89.98	89.85	92.54	82.14	
8	83.18	81.84	87.82	90.75	87.22	85.09	84.13	84.01	77.53	84.51	83.29	86.42	85.73	
9	77.95	81.00	80.15	85.23	79.88	81.55	79.88	77.55	77.82	76.05	79.28	76.39	81.17	
10	62.08	69.58	72.35	70.06	73.14	71.64	72.18	68.15	71.87	80.02	34.92	74.42	74.78	
11	37.46	33.51	37.76	49.73	24.94	21.12	28.61	68.15	45.01	26.11	29.46	36.40	39.53	
12	22.59	42.90	13.32	25.52	20.43	18.53	43.51	23.01	22.76	26.51	35.13	30.56	41.02	
Grand Total	688.10	674.64	710.44	789.61	719.24	665.80	675.13	746.66	739.19	723.52	635.78	730.07	711.52	318.44

	1991-2020		Actual	Normal
jan	26.48	Jul-21	82.14	84.87
feb	28.15	Aug-21	85.73	83.50
mar	42.87	Sep-21	81.17	78.67
apr	69.51	Oct-21	74.78	70.02
may	76.89	Nov-21	39.53	35.27
jun	83.33	Dec-21	41.02	27.87
jul	84.87	Jan-22	21.86	26.48
aug	83.50	Feb-22	22.89	28.15
sep	78.67	Mar-22	29.42	42.87
oct	70.02	Apr-22	72.76	69.51
nov	35.27	May-22	82.17	76.89
dec	27.87	Jun-22	89.35	83.33
Total	707.44		722.80	707.44

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Sum of HDD	Year																				
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	43.46	41.73	40.70	29.84	42.24	44.09	37.39	38.39	40.08	44.09	43.72	32.69	27.30	32.21	38.30	31.81	35.99	46.01	36.18	30.02	45.86	36.64
2	33.62	33.58	56.27	33.99	25.87	24.77	47.85	43.67	30.62	48.56	32.74	29.64	28.90	25.91	39.10	41.98	48.14	42.51	32.24	41.81	48.05	30.18
3	32.32	36.84	1.23	21.49	16.12	6.95	39.51	21.19	25.65	13.48	15.32	30.63	26.28	20.35	32.03	21.69	14.31	3.06	31.72	36.95	26.75	3.95
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	2.34	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
11	28.38	26.37	29.45	35.05	31.17	34.33	38.63	30.07	31.04	30.51	32.75	19.46	30.32	32.64	38.67	24.27	26.50	22.00	31.70	43.27	26.16	26.56
12	50.31	30.50	50.39	53.84	30.02	38.68	29.03	24.30	33.06	43.55	40.34	23.60	36.52	46.19	24.20	36.34	38.09	49.78	52.15	34.15	32.23	46.49
Grand Total	188.09	169.01	178.04	174.90	145.42	148.82	192.42	157.61	160.45	180.19	165.80	136.02	149.33	157.31	172.29	156.09	163.04	164.61	183.98	186.20	181.38	143.99
												-	-	-	-	-	-	-	-	-	-	-

Sum of Precip+1wkB4	Year																				
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	0.14	0.00	0.00	0.00	0.05	0.33	0.11	0.00	0.14	0.00	0.47	0.00	0.22	0.00	0.18	0.09	0.00	0.00	0.79	0.02	0.10	0.00
2	0.34	0.43	0.23	0.15	0.15	0.04	0.24	0.62	0.01	0.00	0.48	0.02	0.00	0.14	0.16	0.00	0.12	0.01	0.34	0.00	0.04	0.15
3	0.36	0.30	0.26	0.00	0.00	0.10	0.00	0.00	0.01	0.02	0.02	0.09	0.23	0.08	0.70	0.11	0.02	0.01	0.09	0.98	0.01	0.00
4	0.01	0.32	0.07	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.14	0.00	0.00	0.06	0.05	0.01	0.01	0.22	0.00	0.05	0.01
5	0.04	0.30	0.32	0.02	1.42	0.02	0.24	0.54	0.39	0.00	0.64	0.00	0.00	0.19	0.72	0.56	1.05	0.01	0.01	0.05	0.41	0.46
6	0.19	0.93	0.47	0.03	0.79	1.35	0.01	0.01	0.00	0.44	0.21	0.00	0.64	0.65	0.18	0.39	1.69	0.01	0.00	0.01	0.01	0.08
7	0.04	1.14	0.77	0.04	0.07	0.03	0.04	0.05	0.14	0.10	0.05	0.39	0.00	0.14	0.00	0.77	0.07	0.28	0.00	0.00	0.13	1.91
8	0.02	0.89	0.37	0.01	0.20	0.38	1.07	0.32	0.12	0.46	2.70	0.35	0.00	0.04	0.00	0.01	0.06	0.50	0.16	0.96	0.03	0.33
9	0.40	0.15	0.39	0.00	0.10	0.08	0.00	0.05	0.00	0.50	0.00	0.66	0.00	0.00	0.81	0.85	0.25	0.00	0.05	0.90	0.00	0.44
10	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.09	0.00
11	0.02	0.03	0.02	0.51	0.22	0.60	0.00	0.09	0.00	0.00	0.58	0.00	0.00	0.80	0.05	0.00	0.08	0.14	0.11	0.06	0.18	0.00
12	0.96	0.00	0.07	0.16	0.35	0.01	0.02	0.07	0.36	0.00	0.05	0.02	0.03	0.00	0.06	0.01	0.02	0.16	0.00	0.01	0.02	0.04
Grand Total	2.52	4.49	3.38	0.93	3.35	2.97	1.73	1.78	1.18	1.53	5.21	1.66	1.13	2.05	2.91	2.98	3.38	1.13	1.77	2.99	1.05	3.43

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Sum of HDD															1991-2020				
Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022				Actual	Normal
1	47.72	45.34	43.06	30.15	39.73	42.05	37.70	30.47	41.63	38.52	44.87	31.37	32.15	43.14	jan	38.52	Jul-21	0.00	0.0
2	27.03	38.40	43.33	33.03	31.48	51.23	47.50	32.80	32.10	32.59	40.17	33.45	46.02	42.11	feb	36.85	Aug-21	0.00	0.0
3	31.19	33.66	20.40	0.00	19.98	39.29	32.88	16.09	0.00	23.96	45.38	24.06	18.42	35.58	mar	22.43	Sep-21	0.00	0.0
4	0.00	16.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.85	0.00	apr	0.71	Oct-21	0.00	1.1
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	may	0.00	Nov-21	25.47	29.8
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	jun	0.00	Dec-21	23.98	37.1
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		jul	0.00	Jan-22	43.14	38.5
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		aug	0.00	Feb-22	42.11	36.9
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		sep	0.00	Mar-22	35.58	22.4
10	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.08	0.00	0.00		oct	1.11	Apr-22	0.00	0.7
11	27.54	31.49	27.24	15.27	40.06	43.88	36.39	0.00	19.99	38.89	35.54	28.60	25.47		nov	29.83	May-22	0.00	0.0
12	42.41	22.10	51.68	39.48	44.57	46.48	21.49	41.99	42.24	38.49	29.87	34.44	23.98		dec	37.13	Jun-22	0.00	0.0
Grand Total	178.82	187.69	185.70	117.93	175.81	222.93	175.96	121.35	135.96	172.45	225.91	151.92	163.87	120.83	Total	166.58		170.28	166.58
	-	-	-	-	-	-	-	-	-	-	-	-							

Sum of Precip+1wkB4															1991-2020				
Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022				Actual	Normal
1	0.01	0.05	0.01	0.00	0.64	0.00	0.35	0.13	0.14	0.02	0.46	0.02	0.29	0.00	jan	0.14	Jul-21	0.11	0.2
2	0.04	0.02	0.27	0.14	0.40	0.08	0.14	0.06	0.00	0.00	0.00	0.12	0.01	0.14	feb	0.13	Aug-21	0.01	0.5
3	0.02	0.84	0.08	0.14	0.00	0.06	0.37	0.14	0.00	0.00	0.00	1.34	0.42	0.01	mar	0.18	Sep-21	0.53	0.2
4	0.01	0.00	0.00	0.02	0.00	0.14	0.01	0.86	0.45	0.00	0.18	0.00	0.00	0.00	apr	0.07	Oct-21	0.44	0.1
5	0.06	0.43	0.00	0.00	0.83	0.00	1.89	0.00	0.03	0.01	1.29	0.22	0.61	0.24	may	0.38	Nov-21	0.00	0.1
6	0.83	0.13	0.00	0.00	0.03	0.00	0.07	0.07	0.04	0.07	0.18	0.24	0.02	0.91	jun	0.27	Dec-21	0.00	0.1
7	0.00	0.33	0.44	0.06	0.04	0.10	0.13	0.06	0.00	0.60	0.42	0.19	0.11		jul	0.22	Jan-22	0.00	0.1
8	0.56	0.10	0.05	0.03	0.02	0.09	1.51	1.11	3.33	0.39	0.04	0.00	0.01		aug	0.50	Feb-22	0.14	0.1
9	0.00	0.11	0.02	0.00	0.00	0.10	0.08	0.62	0.00	0.19	0.34	1.18	0.53		sep	0.24	Mar-22	0.01	0.2
10	0.12	0.00	0.00	0.00	0.39	0.00	0.20	0.00	1.67	0.19	0.31	0.00	0.44		oct	0.11	Apr-22	0.00	0.1
11	0.25	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.15	0.22	0.16	0.00		nov	0.14	May-22	0.24	0.4
12	0.31	0.00	0.44	0.01	0.00	0.03	0.82	0.21	0.00	0.35	0.00	0.08	0.00		dec	0.12	Jun-22	0.91	0.3
Grand Total	2.20	2.02	1.31	0.39	2.35	0.61	5.94	3.26	5.66	1.98	3.45	3.55	2.42	1.30	Total	2.50		2.38	2.50

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Peak Day Weather

Max Pan Temp	Year																						
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	26.28	25.53	34.24	39.79	24.77	26.77	35.24	31.30	25.75	27.77	29.96	42.24	45.79	41.28	28.77	40.04	37.77	30.26	31.04	52.81	25.02	39.00
2	31.28	44.98	10.30	37.08	49.26	46.53	15.55	34.30	41.04	16.81	41.51	43.26	55.00	59.49	30.26	34.51	17.30	26.53	33.51	30.04	19.04	54.04
3	50.51	31.04	80.28	52.79	57.79	74.81	29.79	54.00	42.04	69.75	66.24	51.98	39.32	47.36	32.28	51.51	64.08	82.00	34.30	31.04	53.53	78.28
4	81.79	83.77	90.55	86.28	86.77	89.51	78.75	84.28	89.26	94.26	77.55	89.28	84.04	85.51	83.77	89.75	88.28	80.51	84.79	90.26	74.79	91.51
5	87.02	89.02	99.53	95.53	91.28	95.26	88.49	94.26	95.02	102.02	90.51	101.26	85.55	102.30	92.26	95.00	98.51	97.51	95.04	94.30	85.77	96.53
6	100.26	95.53	90.04	106.49	94.26	93.51	96.02	99.02	89.28	105.26	99.00	98.24	93.53	96.02	96.26	96.00	93.53	101.00	97.51	99.00	94.02	95.55
7	97.26	92.53	99.79	96.51	98.75	101.77	96.02	99.79	102.77	99.26	93.77	101.49	98.02	97.75	98.00	99.77	97.00	93.02	98.49	97.51	91.98	97.28
8	96.00	91.02	100.24	99.75	96.00	96.51	93.28	103.75	95.00	93.02	91.51	95.75	94.26	100.98	98.75	99.00	99.77	96.00	93.75	96.02	99.47	97.02
9	90.00	90.77	94.26	96.51	94.00	94.77	91.51	95.02	98.28	85.51	89.30	96.47	92.75	102.00	93.75	90.77	89.26	92.49	92.75	81.00	99.49	84.30
10	90.51	89.28	91.26	82.26	92.00	87.00	87.02	87.79	85.26	86.51	92.26	88.24	88.26	99.26	89.73	82.28	87.02	84.02	85.51	88.75	90.00	82.51
11	49.53	50.02	44.28	31.02	36.32	35.55	28.83	36.79	47.49	46.26	39.02	50.55	46.51	35.53	29.30	58.26	39.81	51.04	42.53	28.02	55.51	46.77
12	30.53	39.06	22.28	10.08	37.77	28.06	50.02	46.38	33.79	28.30	29.02	53.00	31.79	21.75	50.77	33.28	29.06	20.77	16.81	32.51	34.26	19.08
Grand Total	830.95	822.54	857.01	834.07	858.93	870.03	790.50	866.64	844.95	854.69	839.63	911.73	854.79	889.20	823.85	870.14	841.36	855.14	806.01	821.24	822.87	881.85

Min Pan Temp	Year																						
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	13.28	16.04	12.30	29.02	15.79	14.02	18.77	17.81	20.51	6.28	11.51	24.51	28.77	21.28	24.77	21.30	15.77	1.30	17.81	15.51	8.53	13.77
2	28.51	9.79	-1.71	21.06	27.79	32.79	8.55	4.06	21.53	9.28	22.53	26.75	17.26	20.02	18.28	10.26	6.04	15.53	30.26	11.30	9.04	12.26
3	13.02	19.28	47.75	26.53	39.26	41.00	13.79	28.04	33.02	29.77	32.28	14.75	31.51	38.79	28.51	36.28	32.26	42.79	30.51	21.55	22.49	41.59
4	56.49	48.51	55.51	45.06	47.53	56.28	52.51	52.53	54.51	51.02	44.81	54.30	52.00	49.02	57.02	58.02	55.26	45.53	51.30	54.77	47.75	54.28
5	55.77	60.53	61.08	65.28	63.02	59.77	57.28	65.00	59.53	63.51	61.77	67.53	59.02	63.81	59.24	60.00	68.73	64.02	65.79	56.55	59.51	61.81
6	65.49	62.77	62.77	65.79	68.49	62.53	69.26	64.81	63.77	68.04	68.02	70.28	69.28	65.79	64.79	64.75	69.28	65.51	69.53	65.51	63.28	65.53
7	62.28	65.55	68.04	69.26	69.51	69.53	67.02	65.51	68.04	70.26	69.51	67.02	68.55	64.02	72.26	70.49	65.28	66.77	71.00	70.28	63.26	63.51
8	70.77	67.77	71.26	65.98	65.26	67.51	68.77	68.53	71.98	72.51	66.77	66.77	61.02	66.00	66.26	70.00	69.04	71.75	65.00	70.79	69.77	66.00
9	59.77	56.77	66.00	67.00	61.77	65.28	67.51	52.28	67.02	60.00	64.00	66.73	63.77	65.26	63.51	62.53	63.26	65.26	61.02	62.53	69.51	55.98
10	49.77	52.79	52.00	47.51	54.02	47.53	54.28	50.26	45.51	53.04	59.51	60.26	54.30	54.04	56.79	59.79	50.00	50.51	61.53	61.26	63.02	44.79
11	21.53	23.79	24.28	26.28	24.79	22.02	14.81	28.53	16.55	19.51	20.51	33.79	21.02	26.51	20.02	24.00	34.28	33.02	19.77	12.04	21.75	27.51
12	-2.96	27.02	0.28	-0.22	29.28	20.28	20.28	29.02	27.79	12.00	17.51	21.06	23.24	10.30	31.02	22.53	20.51	5.32	4.28	28.77	27.28	10.53
Grand Total	493.69	510.58	519.54	528.54	566.48	558.52	512.79	526.36	549.75	515.20	538.71	573.71	549.71	544.81	562.44	559.93	549.67	527.28	547.77	530.83	525.16	517.54

Avg Pan Temp	Year																						
Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	19.78	20.79	23.27	34.40	20.28	20.39	27.00	24.55	23.13	17.02	20.74	33.37	37.28	31.28	26.77	30.67	26.77	15.78	24.42	34.16	16.78	26.38
2	29.89	27.38	4.30	29.07	38.52	39.66	12.05	19.18	31.29	13.04	32.02	35.00	36.13	39.76	24.27	22.38	11.67	21.03	31.88	20.67	14.04	33.15
3	31.77	25.16	64.01	39.66	48.52	57.90	21.79	41.02	37.53	49.76	49.26	33.36	35.41	43.07	30.39	43.89	48.17	62.39	32.40	26.30	38.01	59.93
4	69.14	66.14	73.03	65.67	67.15	72.89	65.63	68.40	71.88	72.64	61.18	71.79	68.02	67.27	70.39	73.88	71.77	63.02	68.04	72.51	61.27	72.89
5	71.39	74.78	80.31	80.40	77.15	77.51	72.88	79.63	77.28	82.77	76.14	84.39	72.29	83.05	75.75	77.50	83.62	80.77	80.41	75.42	72.64	79.17
6	82.87	79.15	76.40	86.14	81.37	78.02	82.64	81.91	76.52	86.65	83.51	84.26	81.40	80.90	80.52	80.37	81.40	83.26	83.52	82.26	78.65	80.54
7	79.77	79.04	83.91	82.88	84.13	85.65	81.52	82.65	85.40	84.76	81.64	84.26	83.29	80.88	85.13	85.13	81.14	79.89	84.75	83.89	77.62	80.39
8	83.38	79.39	85.75	82.86	80.63	82.01	81.02	86.14	83.49	82.77	79.14	81.26	77.64	83.49	82.50	84.50	84.40	83.87	79.37	83.40	84.62	81.51
9	74.88	73.77	80.13	81.76	77.88	80.02	79.51	73.65	82.65	72.76	76.65	81.60	78.26	83.63	78.63	76.65	76.26	78.87	76.88	71.77	84.50	70.14
10	70.14	71.03	71.63	64.88	73.01	67.27	70.65	69.02	65.38	69.78	75.88	74.25	71.28	76.65	73.26	71.03	68.51	67.27	73.52	75.00	76.51	63.65
11	35.53	36.90	34.28	28.65	30.55	28.79	21.82	32.66	32.02	32.88	29.77	42.17	33.77	31.02	24.66	41.13	37.04	42.03	31.15	20.03	38.63	37.14
12	13.79	33.04	11.28	4.93	33.52	24.17	35.15	37.70	30.79	20.15	23.27	37.03	27.51	16.02	40.89	27.90	24.79	13.04	10.54	30.64	30.77	14.81
Grand Total	662.32	666.56	688.27	681.30	712.70	714.27	651.64	696.50	697.35	684.95	689.17	742.72	702.25	717.01	693.14	715.03	695.52	691.21	676.89	676.04	674.01	699.69

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
20.53	24.51	37.75	45.98	32.77	33.77	35.24	47.51	27.85	44.49	21.04	36.55	50.18	25.02
59.26	26.30	36.32	48.75	41.53	16.81	19.77	48.51	43.02	44.02	37.49	47.77	20.51	33.53
35.26	37.02	60.77	88.02	63.75	42.22	40.83	64.28	90.77	58.51	24.53	48.02	61.28	39.26
82.32	69.26	87.77	100.28	96.24	89.26	85.02	86.02	90.26	93.51	89.02	90.26	46.28	93.51
94.04	87.02	101.02	95.30	95.53	97.77	80.28	84.53	90.04	98.28	79.77	87.24	87.51	101.00
95.77	99.00	108.75	103.49	104.75	100.77	89.49	100.49	100.49	102.00	96.49	100.51	99.00	106.00
102.00	91.75	102.49	102.24	97.75	100.00	95.77	105.77	99.24	105.00	101.75	108.77	96.75	
98.00	96.00	102.00	105.75	104.26	102.75	97.77	96.51	90.28	98.75	97.49	104.49	102.98	
92.51	96.49	95.49	99.75	95.75	97.02	94.00	90.51	94.77	93.26	93.26	89.26	98.24	
75.06	84.75	86.77	89.24	90.02	83.02	88.02	87.26	83.02	93.24	54.00	93.24	92.00	
49.77	46.28	54.00	72.26	25.28	22.53	30.53	84.28	61.26	30.53	46.96	53.00	52.26	
25.00	60.26	22.53	40.26	22.04	29.02	59.51	26.28	26.30	29.02	55.75	42.53	58.24	
829.50	818.61	895.63	991.28	869.63	814.91	816.20	921.93	897.26	890.59	797.53	901.61	865.20	398.32

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
6.81	11.04	3.53	23.30	16.02	7.28	18.28	21.26	9.79	8.77	14.79	26.28	14.49	13.79
14.75	20.53	0.04	13.26	21.02	4.79	12.02	16.02	18.53	17.53	8.53	11.51	11.02	9.28
29.02	22.02	26.26	53.28	26.00	4.53	20.26	33.79	47.81	22.00	10.28	30.28	32.26	17.28
56.30	26.26	55.30	60.77	60.73	59.51	47.00	45.79	57.02	50.55	49.26	47.28	42.02	51.83
59.28	62.26	57.28	59.02	58.55	62.79	48.28	48.79	54.53	59.79	53.28	54.02	62.75	63.77
66.28	71.26	70.77	74.00	71.02	69.75	60.02	69.51	68.77	74.02	63.81	70.79	70.77	71.30
72.51	67.51	77.51	72.73	73.00	73.26	67.79	75.28	73.02	74.30	76.26	76.32	68.26	
69.77	67.26	73.51	76.24	71.28	68.77	69.28	70.53	62.55	70.28	68.00	68.30	68.30	
63.02	65.51	65.24	70.53	64.26	65.79	63.75	64.30	58.51	65.30	64.51	59.28	64.53	
45.28	53.51	57.51	51.55	58.28	60.02	56.77	48.81	58.04	66.51	14.51	55.24	58.04	
23.51	20.75	19.77	27.02	21.02	15.28	23.53	52.77	28.77	18.53	9.04	19.75	26.51	
17.02	25.49	5.28	9.51	14.28	5.79	28.49	15.55	13.28	20.79	14.28	14.77	21.26	
523.52	513.38	511.97	591.18	555.44	497.52	515.44	562.36	550.60	548.34	446.52	533.77	540.18	227.22

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
13.67	17.78	20.64	34.64	24.39	20.52	26.76	34.38	18.82	26.63	17.91	31.41	32.33	19.40
37.00	23.41	18.18	31.00	31.28	10.80	15.89	32.27	30.78	30.78	23.01	29.64	15.77	21.40
32.14	29.52	43.51	70.65	44.87	23.37	30.54	49.03	69.29	40.26	17.40	39.15	46.77	28.27
69.31	47.76	71.53	80.52	78.48	74.38	66.01	65.90	73.64	72.03	69.14	68.77	44.15	72.67
76.66	74.64	79.15	77.16	77.04	80.28	64.28	66.66	72.29	79.03	66.52	70.63	75.13	82.38
81.02	85.13	89.76	88.75	87.88	85.26	74.76	85.00	84.63	88.01	80.15	85.65	84.88	88.65
87.26	79.63	90.00	87.48	85.37	86.63	81.78	90.52	86.13	89.65	89.00	92.54	82.50	
83.88	81.63	87.76	90.99	87.77	85.76	83.52	83.52	76.41	84.51	82.75	86.39	85.64	
77.77	81.00	80.36	85.14	80.00	81.40	78.87	77.40	76.64	79.28	78.88	74.27	81.38	
60.17	69.13	72.14	70.39	74.15	71.52	72.39	68.03	70.53	79.87	34.26	74.24	75.02	
36.64	33.51	36.88	49.64	23.15	18.90	27.03	68.52	45.01	24.53	28.00	36.37	39.38	
21.01	42.87	13.90	24.88	18.16	17.40	44.00	20.91	19.79	24.90	35.01	28.65	39.75	
676.51	665.99	703.80	791.23	712.53	656.21	665.82	742.14	723.93	719.47	622.02	717.69	702.69	312.77

			1991-2020	
			Actual	Normal
jan	24.81	Jul-21	82.50	84.60
feb	26.32	Aug-21	85.64	83.22
mar	41.63	Sep-21	81.38	78.38
apr	69.27	Oct-21	75.02	69.96
may	76.42	Nov-21	39.38	33.85
jun	82.79	Dec-21	39.75	26.34
jul	84.60	Jan-22	19.40	24.81
aug	83.22	Feb-22	21.40	26.32
sep	78.38	Mar-22	28.27	41.63
oct	69.96	Apr-22	72.67	69.27
nov	33.85	May-22	82.38	76.42
dec	26.34	Jun-22	88.65	82.79
Total	697.58		716.44	697.58

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

Precip+1wkB4	Year																						
Month		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	1	0.19	0.00	0.00	0.00	0.02	0.20	0.13	0.00	0.18	0.00	0.52	0.00	0.26	0.00	0.19	0.12	0.00	0.00	0.96	0.02	0.11	0.00
	2	0.38	0.11	0.20	0.20	0.11	0.05	0.29	0.81	0.00	0.00	0.40	0.02	0.00	0.19	0.08	0.00	0.03	0.01	0.33	0.00	0.01	0.20
	3	0.41	0.39	0.34	0.00	0.00	0.13	0.00	0.00	0.01	0.02	0.01	0.10	0.26	0.11	0.92	0.15	0.02	0.01	0.10	1.29	0.01	0.00
	4	0.00	0.42	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.16	0.00	0.00	0.00	0.06	0.02	0.01	0.28	0.00	0.07	0.01
	5	0.01	0.39	0.42	0.02	1.68	0.00	0.27	0.58	0.52	0.00	0.83	0.00	0.00	0.25	0.55	0.74	1.27	0.01	0.01	0.07	0.52	0.61
	6	0.21	1.23	0.63	0.04	0.95	1.79	0.01	0.01	0.00	0.35	0.27	0.00	0.84	0.55	0.17	0.04	2.14	0.01	0.00	0.01	0.01	0.11
	7	0.05	1.50	1.01	0.00	0.03	0.03	0.02	0.05	0.18	0.05	0.07	0.45	0.00	0.17	0.00	0.99	0.00	0.37	0.00	0.00	0.17	2.51
	8	0.00	1.11	0.47	0.00	0.10	0.25	1.25	0.31	0.16	0.42	2.99	0.43	0.00	0.05	0.00	0.01	0.07	0.60	0.17	1.18	0.04	0.43
	9	0.37	0.18	0.46	0.00	0.09	0.09	0.00	0.07	0.01	0.64	0.00	0.83	0.00	0.00	1.01	1.10	0.34	0.00	0.07	1.19	0.00	0.38
	10	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.03	0.04	0.00	0.50	0.27	0.77	0.00	0.11	0.00	0.00	0.69	0.00	0.00	0.67	0.04	0.00	0.10	0.15	0.14	0.07	0.08	0.00
	12	0.98	0.00	0.09	0.20	0.25	0.01	0.02	0.07	0.47	0.00	0.06	0.00	0.04	0.00	0.06	0.01	0.02	0.10	0.00	0.02	0.02	0.02
Grand Total		2.62	5.37	4.25	0.98	3.50	3.33	1.99	2.07	1.54	1.48	5.83	2.00	1.41	1.99	3.02	3.20	4.01	1.28	2.07	3.85	1.03	4.26

Peak Day HDD	Year																						
Month		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	1	45.23	44.22	41.74	30.60	44.73	44.61	38.00	40.45	41.87	47.98	44.27	31.63	27.73	33.73	38.24	34.33	38.24	49.23	40.58	30.84	48.23	38.62
	2	35.11	37.62	60.71	35.93	26.48	25.34	52.95	45.82	33.72	51.96	32.98	30.00	28.87	25.25	40.74	42.62	53.33	43.97	33.12	44.33	50.96	31.85
	3	33.24	39.84	0.99	25.34	16.48	7.10	43.22	23.98	27.47	15.25	15.75	31.64	29.59	21.93	34.61	21.11	16.83	2.61	32.60	38.71	26.99	5.07
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.82	0.00	0.00	0.00	0.00	0.00	0.00	1.98	0.00	0.00	3.74	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35
	11	29.47	28.10	30.73	36.35	34.45	36.22	43.19	32.34	32.98	32.12	35.24	22.83	31.24	33.98	40.34	23.87	27.96	22.97	33.85	44.97	26.37	27.86
	12	51.22	31.96	53.73	60.07	31.48	40.83	29.85	27.30	34.22	44.85	41.74	27.97	37.49	48.98	24.11	37.10	40.22	51.96	54.46	34.36	34.24	50.20
Grand Total		194.25	181.73	187.88	188.41	153.62	154.10	207.20	169.90	170.25	192.16	173.78	144.07	154.91	163.86	178.03	159.03	176.58	172.71	194.61	193.21	190.52	154.95

Southwestern Public Service Company

Weather Normalization of Firm Wholesale Adjusted Base Period Sales

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
0.01	0.06	0.01	0.00	0.73	0.00	0.38	0.13	0.10	0.00	0.49	0.01	0.35	0.00
0.05	0.03	0.33	0.19	0.53	0.11	0.06	0.08	0.00	0.00	0.00	0.07	0.01	0.18
0.03	0.99	0.11	0.19	0.00	0.07	0.35	0.19	0.00	0.00	0.00	1.44	0.53	0.01
0.01	0.00	0.00	0.02	0.00	0.15	0.02	1.13	0.21	0.00	0.24	0.00	0.00	0.00
0.08	0.57	0.00	0.00	1.10	0.00	2.21	0.00	0.04	0.01	1.70	0.29	0.79	0.32
0.99	0.18	0.00	0.00	0.02	0.00	0.02	0.09	0.06	0.10	0.13	0.20	0.01	1.20
0.00	0.01	0.52	0.07	0.05	0.00	0.13	0.07	0.00	0.75	0.56	0.25	0.14	
0.46	0.00	0.05	0.04	0.02	0.02	1.99	1.47	4.22	0.35	0.04	0.00	0.01	
0.00	0.02	0.03	0.00	0.00	0.12	0.07	0.57	0.00	0.08	0.45	1.55	0.50	
0.16	0.00	0.00	0.00	0.52	0.00	0.20	0.00	1.74	0.25	0.40	0.00	0.54	
0.21	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.19	0.17	0.21	0.00	
0.16	0.00	0.39	0.00	0.00	0.03	1.01	0.22	0.00	0.45	0.00	0.11	0.00	
2.15	1.87	1.43	0.50	2.97	0.50	6.90	3.96	6.36	2.19	4.18	4.13	2.89	1.71

	1991-2020		Actual	Normal
jan	0.15	Jul-21	0.14	0.25
feb	0.13	Aug-21	0.01	0.57
mar	0.22	Sep-21	0.50	0.29
apr	0.08	Oct-21	0.54	0.11
may	0.46	Nov-21	0.00	0.14
jun	0.30	Dec-21	0.00	0.12
jul	0.25	Jan-22	0.00	0.15
aug	0.57	Feb-22	0.18	0.13
sep	0.29	Mar-22	0.01	0.22
oct	0.11	Apr-22	0.00	0.08
nov	0.14	May-22	0.32	0.46
dec	0.12	Jun-22	1.20	0.30
Total	2.83		2.90	2.83

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
51.33	47.23	44.36	30.36	40.61	44.48	38.25	30.62	46.19	38.37	47.09	33.59	32.67	45.60
28.00	41.59	46.82	34.00	33.73	54.21	49.11	32.74	34.23	34.23	41.99	35.36	49.24	43.60
32.86	35.48	21.49	0.00	20.13	41.63	34.46	15.97	0.00	24.75	47.60	25.85	18.24	36.74
0.00	17.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.85	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.75	0.00	0.00	
28.36	31.49	28.12	15.36	41.85	46.10	37.97	0.00	19.99	40.47	37.00	28.63	25.62	
43.99	22.13	51.10	40.12	46.84	47.60	21.00	44.09	45.22	40.10	29.99	36.35	25.26	
189.38	195.16	191.89	119.84	183.16	234.01	181.51	123.41	145.62	177.91	234.41	159.78	171.86	125.93

	1991-2020		Actual	Normal
jan	40.19	Jul-21	0.00	0.00
feb	38.68	Aug-21	0.00	0.00
mar	23.70	Sep-21	0.00	0.00
apr	0.89	Oct-21	0.00	1.23
may	0.02	Nov-21	25.62	31.27
jun	0.00	Dec-21	25.26	38.66
jul	0.00	Jan-22	45.60	40.19
aug	0.00	Feb-22	43.60	38.68
sep	0.00	Mar-22	36.74	23.70
oct	1.23	Apr-22	0.00	0.89
nov	31.27	May-22	0.00	0.02
dec	38.66	Jun-22	0.00	0.00
Total	174.65		176.80	174.65

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Residential Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	CYPperHH_NM	65.282	22.915	2.849	Real Personal Income per Household New Mexico
3	H65_bill_ResSvc_NM_Jan	0.000	0.000	25.062	Heating degree days (January) multiplied by customers
4	H65_bill_ResSvc_NM_Feb	0.000	0.000	18.981	Heating degree days (February) multiplied by customers
5	H65_bill_ResSvc_NM_Mar	0.000	0.000	13.044	Heating degree days (March) multiplied by customers
6	H65_bill_ResSvc_NM_Dec	0.000	0.000	16.550	Heating degree days (December) multiplied by customers
7	C65_bill_ResSvc_NM_Jun	0.001	0.000	25.723	Cooling degree days (June) multiplied by customers
8	C65_bill_ResSvc_NM_Jul	0.001	0.000	37.559	Cooling degree days (July) multiplied by customers
9	C65_bill_ResSvc_NM_Aug	0.001	0.000	39.185	Cooling degree days (August) multiplied by customers
10	C65_bill_ResSvc_NM_Sep	0.001	0.000	27.501	Cooling degree days (September) multiplied by customers
11	C65_bill_ResSvc_NM_Oct	0.001	0.000	9.939	Cooling degree days (October) multiplied by customers
12	BILLINGDAYS	945.569	92.069	10.270	Number of billing days
13	Binary.Bin0509	4351.859	1776.941	2.449	Binary variable for May 2009=1, otherwise=0
14	Binary.Bin1210	-5379.698	1829.705	-2.940	Binary variable for December 2010=1, otherwise=0
15	Binary.Bin0118	7075.300	1830.592	3.865	Binary variable for January 2018=1, otherwise=0
16	Binary.Bin0520	4879.663	1806.597	2.701	Binary variable for May 2010=1, otherwise=0
17	AR(1)	0.817	0.045	18.243	First Order Auto Regressive Term

18	**Model Statistics**	
19	Iterations	17
20	Adjusted Observations	179
21	Deg. of Freedom for Error	163
22	R-Squared	0.969
23	Adjusted R-Squared	0.966
24	AIC	15.541
25	BIC	15.825
26	F-Statistic	
27	Prob (F-Statistic)	
28	Log-Likelihood	-1,628.87
29	Model Sum of Squares	26,537,928,126.93
30	Sum of Squared Errors	840,215,538.42
31	Mean Squared Error	5,154,696.55
32	Std. Error of Regression	2,270.40
33	Mean Abs. Dev. (MAD)	1,684.62
34	Mean Abs. % Err. (MAPE)	3.65%
35	Durbin-Watson Statistic	2.166
36	Durbin-H Statistic	
37	Ljung-Box Statistic	50.90
38	Prob (Ljung-Box)	0.0011
39	Skewness	0.123
40	Kurtosis	3.689
41	Jarque-Bera	3.995
42	Prob (Jarque-Bera)	0.1357

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Residential Space Heat

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	CYPperHH_NM	-60.64871	21.20925	-2.860	Real Personal Income per Household New Mexico
3	H65_bill_ResSpHt_NM_Jan	0.00142	0.00003	50.471	Heating degree days (January) multiplied by customers
4	H65_bill_ResSpHt_NM_Feb	0.00139	0.00003	41.595	Heating degree days (February) multiplied by customers
5	H65_bill_ResSpHt_NM_Mar	0.00116	0.00004	27.310	Heating degree days (March) multiplied by customers
6	H65_bill_ResSpHt_NM_Apr	0.00048	0.00009	5.571	Heating degree days (April) multiplied by customers
7	H65_bill_ResSpHt_NM_Nov	0.00046	0.00009	4.971	Heating degree days (November) multiplied by customers
8	H65_bill_ResSpHt_NM_Dec	0.00089	0.00004	23.351	Heating degree days (December) multiplied by customers
9	C65_bill_ResSpHt_NM_Jun	0.00093	0.00005	18.412	Cooling degree days (June) multiplied by customers
10	C65_bill_ResSpHt_NM_Jul	0.00113	0.00004	31.177	Cooling degree days (July) multiplied by customers
11	C65_bill_ResSpHt_NM_Aug	0.00125	0.00004	35.248	Cooling degree days (August) multiplied by customers
12	C65_bill_ResSpHt_NM_Sep	0.00104	0.00005	21.197	Cooling degree days (September) multiplied by customers
13	C65_bill_ResSpHt_NM_Oct	0.00070	0.00012	5.931	Cooling degree days (October) multiplied by customers
14	BILLINGDAYS	1163.33361	86.34547	13.473	Number of Billing Days
15	Binary.Bin0406	4101.98800	1653.49393	2.481	Binary variable for April 2006=1, otherwise=0
16	Binary.Bin0509	3497.90016	1626.66037	2.150	Binary variable for May 2009=1, otherwise=0
17	Binary.Bin0313	3787.19530	1670.20828	2.267	Binary variable for March 2013=1, otherwise=0
18	Binary.Bin0513	4336.07388	1649.93524	2.628	Binary variable for May 2013=1, otherwise=0
19	Binary.Bin1213	9028.55852	1657.17993	5.448	Binary variable for December 2013=1, otherwise=0
20	Binary.Bin1214	7314.30418	1646.83550	4.441	Binary variable for December 2014=1, otherwise=0
21	Binary.Bin0317	-4498.06685	1630.97238	-2.758	Binary variable for March 2017=1, otherwise=0
22	Binary.Bin1019	4415.31133	1785.54785	2.473	Binary variable for October 2019=1, otherwise=0
23	Binary.Bin1119	5502.00730	1747.74353	3.148	Binary variable for November 2019=1, otherwise=0
24	Binary.Bin0520	5419.77987	1643.32375	3.298	Binary variable for May 2020=1, otherwise=0
25	AR(1)	0.85013	0.05063	16.792	First Order Auto Regressive Term
26	MA(1)	-0.46172	0.09936	-4.647	First Order Moving Average

27	**Model Statistics**	
28	Iterations	14
29	Adjusted Observations	179
30	Deg. of Freedom for Error	154
31	R-Squared	0.979
32	Adjusted R-Squared	0.976
33	AIC	15.034
34	BIC	15.479
35	F-Statistic	
36	Prob (F-Statistic)	
37	Log-Likelihood	-1,574.51
38	Model Sum of Squares	21,307,552,070.96
39	Sum of Squared Errors	457,759,262.97
40	Mean Squared Error	2,972,462.75
41	Std. Error of Regression	1,724.08
42	Mean Abs. Dev. (MAD)	1,230.31
43	Mean Abs. % Err. (MAPE)	3.13%
44	Durbin-Watson Statistic	2.011
45	Durbin-H Statistic	
46	Ljung-Box Statistic	27.71
47	Prob (Ljung-Box)	0.2726
48	Skewness	0.090
49	Kurtosis	3.655
50	Jarque-Bera	3.442
51	Prob (Jarque-Bera)	0.1789

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Small General Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
3	EE_NM	-30.322240	13.001	-2.332	Non-farm employment, New Mexico service area
5	H65_bill_SGS_NM_Jan	0.000294	0.000	10.352	Heating degree days (January) multiplied by customers
6	H65_bill_SGS_NM_Feb	0.000292	0.000	9.061	Heating degree days (February) multiplied by customers
7	H65_bill_SGS_NM_Mar	0.000275	0.000	7.969	Heating degree days (March) multiplied by customers
8	H65_bill_SGS_NM_Dec	0.000145	0.000	4.792	Heating degree days (December) multiplied by customers
9	C65_bill_SGS_NM_Jun	0.000609	0.000	13.710	Cooling degree days (June) multiplied by customers
10	C65_bill_SGS_NM_Jul	0.000713	0.000	18.944	Cooling degree days (July) multiplied by customers
11	C65_bill_SGS_NM_Aug	0.000718	0.000	18.901	Cooling degree days (August) multiplied by customers
12	C65_bill_SGS_NM_Sep	0.000676	0.000	14.157	Cooling degree days (September) multiplied by customers
13	C65_bill_SGS_NM_Oct	0.000479	0.000	5.320	Cooling degree days (October) multiplied by customers
14	RateShiftSGtoSGS	7659.991855	689.319	11.112	Rate change SG to SGS due to demand req change
15	BILLINGDAYS	267.008576	25.020	10.672	Number of Billing Days
16	Binary.Bin0706	-2578.554440	562.882	-4.581	Binary for July 2006=1, otherwise=0
17	Binary.Bin0806	-5562.656703	562.722	-9.885	Binary for August 2006=1, otherwise=0
18	Binary.Bin1109	2336.895116	488.382	4.785	Binary for November 2009=1, otherwise=0
19	Binary.Bin0118	1403.907280	500.311	2.806	Binary for January 2018=1, otherwise=0
21	AR(1)	0.958262	0.023	41.027	First order autoregressive term

22	**Model Statistics**	
23	Iterations	13
24	Adjusted Observations	179
25	Deg. of Freedom for Error	162
26	R-Squared	0.957
27	Adjusted R-Squared	0.953
28	AIC	13.071
29	BIC	13.374
30	F-Statistic	
31	Prob (F-Statistic)	
32	Log-Likelihood	-1,406.83
33	Model Sum of Squares	1,568,801,305.04
34	Sum of Squared Errors	70,301,812.54
35	Mean Squared Error	433,961.81
36	Std. Error of Regression	658.76
37	Mean Abs. Dev. (MAD)	439.76
38	Mean Abs. % Err. (MAPE)	4.74%
39	Durbin-Watson Statistic	2.121
40	Durbin-H Statistic	
41	Ljung-Box Statistic	12.15
42	Prob (Ljung-Box)	0.9782
43	Skewness	1.061
44	Kurtosis	12.272
45	Jarque-Bera	674.840
46	Prob (Jarque-Bera)	0.0000

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Secondary General Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	EE_NM	193.206	29.066	6.647	Non-farm employment, New Mexico service area
3	C65_bill_ROS_NM_Jun	23.468	2.126	11.037	Cooling degree days (June)
4	C65_bill_ROS_NM_Jul	28.040	1.494	18.766	Cooling degree days (July)
5	C65_bill_ROS_NM_Aug	28.859	1.389	20.783	Cooling degree days (August)
6	C65_bill_ROS_NM_Sep	27.641	1.913	14.446	Cooling degree days (September)
7	C65_bill_ROS_NM_Oct	16.809	4.165	4.036	Cooling degree days (October)
8	BILLINGDAYS	1832.267	101.112	18.121	Number of Billing Days
9	RateShiftJan09	-19446.775	614.949	-31.623	Rate Shift January 2009
10	RateShiftSGtoSGS	-4353.929	539.351	-8.073	Rate change SG to SGS due to demand req change
11	Binary.Bin0206	-8892.193145	2806.359234	-3.168586914	Binary variable for February 2006=1, otherwise=0
12	Binary.Bin0406	-7124.783764	2807.623296	-2.537656592	Binary variable for April 2006=1, otherwise=0
13	Binary.Bin1206	-8639.57957	2805.359061	-3.079669797	Binary variable for December 2006=1, otherwise=0
14	Binary.bin0109	21344.263	2815.797	7.580	Binary variable for January 2009=1, otherwise=0
15	Binary.Bin0309	20697.247	2795.336	7.404	Binary variable for March 2009=1, otherwise=0
16	Binary.Bin0409	21286.832	2792.251	7.624	Binary variable for April 2009=1, otherwise=0
17	Binary.Bin0509	15762.820	2789.945	5.650	Binary variable for May 2009=1, otherwise=0
18	Binary.Bin0709	12522.092	2882.560	4.344	Binary variable for July 2009=1, otherwise=0
19	Binary.Bin1210	-8807.844	2811.690	-3.133	Binary variable for December 2010=1, otherwise=0
20	Binary.Bin0312	-71535.619	2791.165	-25.629	Binary variable for March 2012=1, otherwise=0
21	Binary.Bin0212	-8764.451	2790.119	-3.141	Binary variable for February 2012=1, otherwise=0
22	Binary.Bin0412	-23133.780	2791.700	-8.287	Binary variable for April 2012=1, otherwise=0
23	Binary.Bin1216	-7943.294	2815.458	-2.821	Binary variable for December 2016=1, otherwise=0

24	Model Statistics	
25	Iterations	1
26	Adjusted Observations	180
27	Deg. of Freedom for Error	158
28	R-Squared	0.961
29	Adjusted R-Squared	0.956
30	AIC	15.960
31	BIC	16.350
32	F-Statistic	
33	Prob (F-Statistic)	
34	Log-Likelihood	-1,669.81
35	Model Sum of Squares	30,004,640,391.24
36	Sum of Squared Errors	1,203,507,398.85
37	Mean Squared Error	7,617,135.44
38	Std. Error of Regression	2,759.92
39	Mean Abs. Dev. (MAD)	1,917.34
40	Mean Abs. % Err. (MAPE)	2.97%
41	Durbin-Watson Statistic	1.729
42	Durbin-H Statistic	
43	Ljung-Box Statistic	46.38
44	Prob (Ljung-Box)	0.0040
45	Skewness	-0.009
46	Kurtosis	3.525
47	Jarque-Bera	2.070
48	Prob (Jarque-Bera)	0.3552

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Muni & School Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	NR_NM	37.610	0.453	83.033	Population in New Mexico service area
3	C65_bill_MuniSch_NM_Jun	0.003	0.000	6.798	Cooling degree days (June)
4	C65_bill_MuniSch_NM_Jul	0.002	0.000	8.115	Cooling degree days (July)
5	C65_bill_MuniSch_NM_Aug	0.003	0.000	9.923	Cooling degree days (August)
6	C65_bill_MuniSch_NM_Sep	0.004	0.000	11.398	Cooling degree days (September)
7	C65_bill_MuniSch_NM_Oct	0.010	0.001	13.173	Cooling degree days (October)
8	PrecipB_Mun_Sch_MarApr	-0.302	0.141	-2.145	Precipitation inches (March, April)
9	PrecipB_Mun_Sch_MayJun	-0.164	0.068	-2.409	Precipitation inches (May, June)
10	Binary.Bin0409	-1990.550	624.992	-3.185	Binary variable for April 2009=1, otherwise=0
11	Binary.Bin0911	1732.300	658.861	2.629	Binary variable for September 2011=1, otherwise =0
12	Binary.Bin0414	1713.292	708.719	2.417	Binary variable for April 2014=1, otherwise=0
13	Binary.Bin0520	-2473.008	677.619	-3.650	Binary variable for May 2020=1, otherwise=0
14	Binary.Bin1112	2450.390	636.580	3.849	Binary variable for November 2012=1, otherwise=0
15	Binary.Bin0512	1702.582	638.274	2.667	Binary variable for May 2012=1, otherwise=0
16	Binary.Bin1213	-1422.537	658.694	-2.160	Binary variable for December 2013=1, otherwise=0
17	Binary.Bin1120	-2024.320	811.948	-2.493	Binary variable for November 2020=1, otherwise=0
18	MA(1)	-0.180	0.072	-2.518	First order Moving Average
19	MA(2)	0.637	0.071	8.964	Second order Moving Average

20	**Model Statistics**	
21	Iterations	16
22	Adjusted Observations	144
23	Deg. of Freedom for Error	126
24	R-Squared	0.809
25	Adjusted R-Squared	0.783
26	AIC	13.458
27	BIC	13.830
28	F-Statistic	
29	Prob (F-Statistic)	
30	Log-Likelihood	-1,155.33
31	Model Sum of Squares	332,116,788.67
32	Sum of Squared Errors	78,469,350.04
33	Mean Squared Error	622,772.62
34	Std. Error of Regression	789.16
35	Mean Abs. Dev. (MAD)	610.67
36	Mean Abs. % Err. (MAPE)	5.53%
37	Durbin-Watson Statistic	1.914
38	Durbin-H Statistic	
39	Ljung-Box Statistic	41.80
40	Prob (Ljung-Box)	0.0136
41	Skewness	0.017
42	Kurtosis	2.506
43	Jarque-Bera	1.469
44	Prob (Jarque-Bera)	0.4797

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

New Mexico Irrigation Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	CONST	1712.400	299.416	5.719	Constant term
3	PrecipB_Irr_Mar	-1.577	0.479	-3.291	precipitation inches (March) multiplied by customer
4	PrecipB_Irr_Apr	-2.109	0.605	-3.483	precipitation inches (April) multiplied by customer
5	PrecipB_Irr_May_Jun	-0.476	0.143	-3.340	precipitation inches (May and June) multiplied by customer
6	PrecipB_Irr_Jul	-0.486	0.191	-2.544	precipitation inches (July) multiplied by customer
7	PrecipB_Irr_Aug_Sep	-0.840	0.129	-6.526	precipitation inches (Aug and Sep) multiplied by customer
8	Jan	-457.389	219.319	-2.086	Seasonal binary variable, January=1, otherwise=0
10	Mar	3492.805	316.971	11.019	Seasonal binary variable, March=1, otherwise=0
11	Apr	7682.831	357.567	21.486	Seasonal binary variable, April=1, otherwise=0
12	May	7412.265	330.350	22.438	Seasonal binary variable, May=1, otherwise=0
13	Jun	8680.460	362.778	23.928	Seasonal binary variable, June=1, otherwise=0
14	Jul	11365.979	435.293	26.111	Seasonal binary variable, July=1, otherwise=0
15	Aug	12526.978	396.842	31.567	Seasonal binary variable, August=1, otherwise=0
16	Sep	9525.832	389.678	24.445	Seasonal binary variable, September=1, otherwise=0
17	Oct	4183.320	292.259	14.314	Seasonal binary variable, October=1, otherwise=0
18	Nov	1310.804	249.768	5.248	Seasonal binary variable, November=1, otherwise=0
19	Binary.Bin0809	-2987.601	835.305	-3.577	Binary variable for August 2009=1, otherwise=0
20	Binary.Bin0610	3045.127	854.207	3.565	Binary variable for June 2010=1, otherwise=0
21	Binary.Bin1014	-3258.922	837.249	-3.892	Binary variable for October 2014=1, otherwise=0
22	Binary.Bin0415	2468.271	975.669	2.530	Binary variable for April 2015=1, otherwise=0
23	AR(1)	0.804	0.070	11.531	First order autoregressive term
24	MA(1)	-0.279	0.115	-2.431	First order Moving Average

25	Model Statistics	
26	Iterations	19
27	Adjusted Observations	179
28	Deg. of Freedom for Error	157
29	R-Squared	0.959
30	Adjusted R-Squared	0.953
31	AIC	13.760
32	BIC	14.152
33	F-Statistic	174.513
34	Prob (F-Statistic)	0.0000
35	Log-Likelihood	-1,463.50
36	Model Sum of Squares	3,091,090,116.29
37	Sum of Squared Errors	132,423,230.85
38	Mean Squared Error	843,460.07
39	Std. Error of Regression	918.40
40	Mean Abs. Dev. (MAD)	652.75
41	Mean Abs. % Err. (MAPE)	20.98%
42	Durbin-Watson Statistic	1.956
43	Durbin-H Statistic	
44	Ljung-Box Statistic	25.17
45	Prob (Ljung-Box)	0.3963
46	Skewness	0.141
47	Kurtosis	3.318
48	Jarque-Bera	1.349
49	Prob (Jarque-Bera)	0.5095

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Texas Residential Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	CYPperHH_TX	245.264	44.663	5.491	Real Personal Income per Household (Texas service area)
3	H65_bill_ResSrv_TX_Jan	0.001	0.000	42.558	Heating degree days (January) multiplied by customers
4	H65_bill_ResSrv_TX_Feb	0.000	0.000	28.618	Heating degree days (February) multiplied by customers
5	H65_bill_ResSrv_TX_Mar	0.000	0.000	18.486	Heating degree days (March) multiplied by customers
6	H65_bill_ResSrv_TX_Dec	0.000	0.000	21.830	Heating degree days (December) multiplied by customers
7	C65_bill_ResSrv_TX_Jun	0.001	0.000	30.525	Cooling degree days (June) multiplied by customers
8	C65_bill_ResSrv_TX_Jul	0.001	0.000	56.022	Cooling degree days (July) multiplied by customers
9	C65_bill_ResSrv_TX_Aug	0.001	0.000	62.239	Cooling degree days (August) multiplied by customers
10	C65_bill_ResSrv_TX_Sep	0.001	0.000	39.800	Cooling degree days (September) multiplied by customers
11	C65_bill_ResSrv_TX_Oct	0.001	0.000	12.260	Cooling degree days (October) multiplied by customers
12	BILLINGDAYS	3716.074	183.189	20.285	Number of Billing Days
13	Binary.Bin0106	-25900.113	7295.063	-3.550	Binary variable for January 2006=1, otherwise=0
14	Binary.Bin0206	-23747.629	7304.089	-3.251	Binary variable for February 2006=1, otherwise=0
15	Binary.Bin0512	16547.892	7156.830	2.312	Binary variable for May 2012=1, otherwise=0
16	Binary.Bin0413	19805.926	7164.022	2.765	Binary variable for April 2013=1, otherwise=0
17	Binary.Bin1213	24743.641	7411.379	3.339	Binary variable for December 2013=1, otherwise=0
18	Binary.Bin0518	16232.365	7156.836	2.268	Binary variable for May 2018=1, otherwise=0
19	Binary.Bin1119	27111.394	7245.394	3.742	Binary variable for November 2019=1, otherwise=0
20	Binary.Bin0520	23225.242	7260.822	3.199	Binary variable for May 2020=1, otherwise=0
21	Binary.Bin1120	21013.382	7286.954	2.884	Binary variable for November 2020=1, otherwise=0
22	Binary.Bin1118	16645.329	7176.342	2.319	Binary variable for November 2018=1, otherwise=0

23	Model Statistics	
24	Iterations	1
25	Adjusted Observations	180
26	Deg. of Freedom for Error	159
27	R-Squared	0.981
28	Adjusted R-Squared	0.978
29	AIC	17.835
30	BIC	18.207
31	F-Statistic	
32	Prob (F-Statistic)	
33	Log-Likelihood	-1,839.54
34	Model Sum of Squares	407,277,070,849.44
35	Sum of Squared Errors	7,933,571,410.71
36	Mean Squared Error	49,896,675.54
37	Std. Error of Regression	7,063.76
38	Mean Abs. Dev. (MAD)	5,248.85
39	Mean Abs. % Err. (MAPE)	2.70%
40	Durbin-Watson Statistic	1.788
41	Durbin-H Statistic	
42	Ljung-Box Statistic	26.32
43	Prob (Ljung-Box)	0.3369
44	Skewness	0.011
45	Kurtosis	2.541
46	Jarque-Bera	1.585
47	Prob (Jarque-Bera)	0.4528

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Texas Small General Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	EE_TX_Log	902.649	335.239	2.693	Log of non-farm employment, Texas service area
3	H65_bill_SGS_TX_Jan	0.000	0.000	10.748	Heating degree days (January) multiplied by customers
4	H65_bill_SGS_TX_Feb	0.000	0.000	6.596	Heating degree days (February) multiplied by customers
5	H65_bill_SGS_TX_Mar	0.000	0.000	6.445	Heating degree days (March) multiplied by customers
6	H65_bill_SGS_TX_Dec	0.000	0.000	6.086	Heating degree days (December) multiplied by customers
7	C65_bill_SGS_TX_Jun	0.001	0.000	11.461	Cooling degree days (June) multiplied by customers
8	C65_bill_SGS_TX_Jul	0.001	0.000	19.991	Cooling degree days (July) multiplied by customers
9	C65_bill_SGS_TX_Aug	0.001	0.000	25.138	Cooling degree days (August) multiplied by customers
10	C65_bill_SGS_TX_Sep	0.001	0.000	19.933	Cooling degree days (September) multiplied by customers
11	C65_bill_SGS_TX_Oct	0.001	0.000	6.542	Cooling degree days (October) multiplied by customers
12	RateShiftJun12	-4878.910	860.082	-5.673	SGS customers moved to the SG rate effective June 2012=1, prior values=0
13	RateShiftFeb14	5606.946	870.287	6.443	SG customers moved to the SGS rate effective February 2014=1, prior values=0
14	BILLINGDAYS	446.402	60.381	7.393	Number of billing days
	Binary.Bin1106	-7090.184	1129.378	-6.278	Binary for November 2006=1, otherwise=0
15	Binary.Bin0507	-4375.724	1123.622	-3.894	Binary for May 2007=1, otherwise=0
16	Binary.bin0109	3483.075	1290.783	2.698	Binary for January 2009=1, otherwise=0
17	Binary.bin0209	-3475.006	1296.087	-2.681	Binary for February 2009=1, otherwise=0
18	Binary.Bin0812	-2903.769	1171.135	-2.479	Binary for August 2012=1, otherwise=0
19	Binary.Bin0214	4338.576	1262.174	3.437	Binary for February 2014=1, otherwise=0
20	Binary.Bin0614	-2550.996	1152.403	-2.214	Binary for June 2014=1, otherwise=0
21	Binary.Bin1016	-9405.817	1203.722	-7.814	Binary for October 2016=1, otherwise=0
22	Binary.Bin0518	3261.277	1157.713	2.817	Binary for May 2018=1, otherwise=0
23	AR(1)	0.675	0.062	10.817	First order autoregressive term

24	Model Statistics	
25	Iterations	10
26	Adjusted Observations	179
27	Deg. of Freedom for Error	156
28	R-Squared	0.934
29	Adjusted R-Squared	0.925
30	AIC	14.527
31	BIC	14.937
32	F-Statistic	
33	Prob (F-Statistic)	
34	Log-Likelihood	-1,531.18
35	Model Sum of Squares	4,009,259,512.82
36	Sum of Squared Errors	282,080,914.59
37	Mean Squared Error	1,808,210.99
38	Std. Error of Regression	1,344.70
39	Mean Abs. Dev. (MAD)	1,008.92
40	Mean Abs. % Err. (MAPE)	4.65%
41	Durbin-Watson Statistic	1.842
42	Durbin-H Statistic	
43	Ljung-Box Statistic	32.12
44	Prob (Ljung-Box)	0.1241
45	Skewness	0.083
46	Kurtosis	3.718
47	Jarque-Bera	4.052
48	Prob (Jarque-Bera)	0.1318

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Texas Secondary General Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	EE_TX_Log	33031.820	378.452	87.281	Log of non-farm employment, Texas service area
3	Feb	-17973.634	2861.220	-6.282	Seasonal binary variable, February=1, otherwise=0
4	H65_bill_Pan_TX_Jan	25.558	3.375	7.574	Heating degree days (January)
5	H65_bill_Pan_TX_Dec	36.851	4.264	8.642	Heating degree days (December)
6	C65_bill_Pan_TX_Jun	118.502	9.776	12.122	Cooling degree days (June)
7	C65_bill_Pan_TX_Jul	137.329	6.547	20.976	Cooling degree days (July)
8	C65_bill_Pan_TX_Aug	160.952	6.178	26.053	Cooling degree days (August)
9	C65_bill_Pan_TX_Sep	153.783	8.445	18.210	Cooling degree days (September)
10	C65_bill_Pan_TX_Oct	115.248	18.736	6.151	Cooling degree days (October)
11	PAN_TX_PRECIPB_Mar	-8418.326	2995.442	-2.810	Precipitation inches (March)
12	PAN_TX_PRECIPB_Apr	-7640.920	1713.498	-4.459	Precipitation inches (April)
13	Pan_TX_PrecipB_MayJunJulAugSep	-1509.098	610.710	-2.471	Precipitation inches (May, June, July, August, September)
14	SGtoSGSRateChg	-10926.062	2385.489	-4.580	SG to SGS change (10-25KW)
15	RateShiftMay11	-11870.542	2516.041	-4.718	Binary for customers moving from secondary general to primary general, starting May 2011=1, otherwise=0
16	Binary.Bin1108	-27812.633	9036.691	-3.078	Binary variable for November 2008=1, otherwise=0
17	Binary.Bin0210	-48811.422	9402.629	-5.191	Binary variable for February 2010=1, otherwise=0
18	Binary.Bin0112	-32405.217	9370.813	-3.458	Binary variable for January 2012=1, otherwise=0
19	Binary.Bin1016	-21707.565	9245.480	-2.348	Binary variable for October 2016=1, otherwise=0
20	Binary.Bin0518	21285.903	9043.823	2.354	Binary variable for May 2018=1, otherwise=0
23	AR(1)	0.225	0.082	2.753	First order autoregressive term
24	**Model Statistics**				
25	Iterations	10			
26	Adjusted Observations	179			
27	Deg. of Freedom for Error	159			
28	R-Squared	0.923			
29	Adjusted R-Squared	0.913			
30	AIC	18.346			
31	BIC	18.702			
32	F-Statistic				
33	Prob (F-Statistic)				
34	Log-Likelihood	-1,875.94			
35	Model Sum of Squares	158,378,497,460.39			
36	Sum of Squared Errors	13,283,087,417.34			
37	Mean Squared Error	83,541,430.30			
38	Std. Error of Regression	9,140.10			
39	Mean Abs. Dev. (MAD)	6,640.96			
40	Mean Abs. % Err. (MAPE)	3.64%			
41	Durbin-Watson Statistic	1.979			
42	Durbin-H Statistic				
43	Ljung-Box Statistic	46.27			
44	Prob (Ljung-Box)	0.0041			
45	Skewness	0.106			
46	Kurtosis	3.209			
47	Jarque-Bera	0.660			
48	Prob (Jarque-Bera)	0.7191			

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Canadian River Municipal Water Authority

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	NR_TX	17.657	0.498	35.453	Population in Texas service area
3	Jan	-1977.778	389.205	-5.082	Seasonal binary variable, January=1, otherwise=0
4	Feb	-1761.298	352.317	-4.999	Seasonal binary variable, February=1, otherwise=0
5	May	1832.192	353.156	5.188	Seasonal binary variable, May=1, otherwise=0
6	Dec	-1610.072	341.296	-4.718	Seasonal binary variable, December=1, otherwise=0
7	C65_Cal_Pan_TX_Jun	5.875	0.962	6.106	Cooling degree days (June)
8	C65_Cal_Pan_TX_Jul	6.880	0.815	8.440	Cooling degree days (July)
9	C65_Cal_Pan_TX_Aug	6.563	0.860	7.635	Cooling degree days (August)
10	C65_Cal_Pan_TX_Sep	6.104	1.473	4.143	Cooling degree days (September)
11	Pan_TX_PrecipCal_AprtoSep	-158.309	67.340	-2.351	Precipitation inches (March, April, May, June, July, August, September)
12	SalesShift	1099.689	281.680	3.904	Binary variable for sales shift starting January 2010=1, otherwise=0
13	Binary.Bin0108	-8408.556	1123.288	-7.486	Binary variable for January 2008=1, otherwise=0
14	Binary.Bin0308	9067.186	1091.640	8.306	Binary variable for March 2008=1, otherwise=0
15	Binary.Bin1009	-9618.591	1089.687	-8.827	Binary variable for October 2009=1, otherwise=0
16	Binary.Bin0210	-2678.689	1206.578	-2.220	Binary variable for February 2010=1, otherwise=0
17	Binary.Bin0310	-3104.027	1172.255	-2.648	Binary variable for March 2010=1, otherwise=0
19	Binary.Bin0116	-2986.679	1205.447	-2.478	Binary variable for January 2016=1, otherwise=0
20	Binary.Bin0216	-5705.269	1291.844	-4.416	Binary variable for February 2016=1, otherwise=0
21	Binary.Bin0316	-6822.817	1170.826	-5.827	Binary variable for March 2016=1, otherwise=0
22	Binary.Bin1119	-3021.728	1170.887	-2.581	Binary variable for November 2019=1, otherwise=0
23	Binary.Bin1219	-3385.686	1197.742	-2.827	Binary variable for December 2019=1, otherwise=0
24	MA(1)	0.398	0.078	5.108	First order Moving Average

25	**Model Statistics**	
26	Iterations	13
27	Adjusted Observations	180
28	Deg. of Freedom for Error	158
29	R-Squared	0.839
30	Adjusted R-Squared	0.818
31	AIC	14.224
32	BIC	14.614
33	F-Statistic	
34	Prob (F-Statistic)	
35	Log-Likelihood	-1,513.59
36	Model Sum of Squares	1,108,350,197.52
37	Sum of Squared Errors	212,129,772.40
38	Mean Squared Error	1,342,593.50
39	Std. Error of Regression	1,158.70
40	Mean Abs. Dev. (MAD)	860.09
41	Mean Abs. % Err. (MAPE)	8.36%
42	Durbin-Watson Statistic	1.893
43	Durbin-H Statistic	
44	Ljung-Box Statistic	22.87
45	Prob (Ljung-Box)	0.5275
46	Skewness	-0.186
47	Kurtosis	2.730
48	Jarque-Bera	1.582
49	Prob (Jarque-Bera)	0.4533

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Texas Municipals and Schools

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	TX_Econ.NR_TX	52.166	0.369	141.418	Population in Texas service area
3	C65_bill_MSS_TX_Jun	0.003	0.001	5.882	Cooling degree days (June) multiplied by customers
4	C65_bill_MSS_TX_Jul	0.002	0.000	6.999	Cooling degree days (July) multiplied by customers
5	C65_bill_MSS_TX_Aug	0.003	0.000	9.070	Cooling degree days (August) multiplied by customers
6	C65_bill_MSS_TX_Sep	0.005	0.000	12.561	Cooling degree days (September) multiplied by customers
7	C65_bill_MSS_TX_Oct	0.011	0.001	13.217	Cooling degree days (October) multiplied by customers
8	Binary.Bin1107	9471.080	2001.762	4.731	Binary variable for November 2007=1, otherwise=0
9	PrecipB_MSS_TX_Apr	-0.269	0.083	-3.235	Bill Month Precipitation (April) multiplied by customers
10	PrecipB_MSS_TXJunJulAug	-0.071	0.032	-2.244	Bill Month Precipitation (June_July_August) multiplied by customers
11	Binary.Bin0806	22418.949	2049.731	10.938	Binary variable for August 2006=1, otherwise=0
12	Binary.Bin1206	-13373.907	2001.669	-6.681	Binary variable for December 2006=1, otherwise=0
13	Binary.Bin0317	-7432.657	2002.522	-3.712	Binary variable for March 2017=1, otherwise=0
14	Binary.Bin0917	-5339.195	2029.793	-2.630	Binary variable for September 2017=1, otherwise=0
15	Binary.Bin0519	-5165.867	2002.425	-2.580	Binary variable for May 2019=1, otherwise=0
16	Binary.Bin0520	-8692.598	2002.382	-4.341	Binary variable for May 2020=1, otherwise=0
17	Binary.Bin0620	-5492.257	2068.924	-2.655	Binary variable for June 2020=1, otherwise=0
18	Binary.Bin0222	-4406.653	2002.394	-2.201	Binary variable for February 2022=1, otherwise=0
19	Binary.Bin1211	4590.238	2002.490	2.292	Binary variable for December 2011=1, otherwise=0

	Model Statistics	
20		
21	Iterations	1
22	Adjusted Observations	180
23	Deg. of Freedom for Error	162
24	R-Squared	0.815
25	Adjusted R-Squared	0.796
26	AIC	15.288
27	BIC	15.607
28	F-Statistic	
29	Prob (F-Statistic)	
30	Log-Likelihood	-1,613.32
31	Model Sum of Squares	2,835,360,045.04
32	Sum of Squared Errors	642,498,289.04
33	Mean Squared Error	3,966,038.82
34	Std. Error of Regression	1,991.49
35	Mean Abs. Dev. (MAD)	1,520.19
36	Mean Abs. % Err. (MAPE)	4.83%
37	Durbin-Watson Statistic	1.849
38	Durbin-H Statistic	
39	Ljung-Box Statistic	81.27
40	Prob (Ljung-Box)	0.0000
41	Skewness	0.082
42	Kurtosis	2.474
43	Jarque-Bera	2.273
44	Prob (Jarque-Bera)	0.3209

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Wholesale Central Valley

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	CV_CGCP_log	6638.07547	112.97331	58.758	Log of Real Gross County Product of Central Valley
3	Feb	-5362.65086	563.41845	-9.518	Seasonal binary February
4	Mar	2729.92470	699.71556	3.901	Seasonal binary March
5	Apr	1937.10380	751.13073	2.579	Seasonal binary April
6	C65_cal_ROS_NM_May	15.55668	3.48380	4.465	Cooling degree days (May) Roswell NM
7	C65_cal_ROS_NM_Jun	14.71308	1.58883	9.260	Cooling degree days (Jun) Roswell NM
8	C65_cal_ROS_NM_Jul	20.48209	1.37637	14.881	Cooling degree days (July) Roswell NM
9	C65_cal_ROS_NM_Aug	20.39512	1.32902	15.346	Cooling degree days (August) Roswell NM
10	C65_cal_ROS_NM_Sep	7.05873	1.96624	3.590	Cooling degree days (September) Roswell NM
11	Nov	-2327.24668	427.75317	-5.441	Seasonal binary November
12	Binary.Bin0908	-8146.96128	1673.82432	-4.867	Binary variable for September 2008=1, otherwise=0
13	Binary.Bin0710	-4515.21620	1694.86141	-2.664	Binary variable for July 2010=1, otherwise=0
14	Binary.Bin0211	-7548.19516	1713.15034	-4.406	Binary variable for February 2011=1, otherwise=0
15	Binary.Bin0520	-9924.99765	1795.88055	-5.527	Binary variable for May 2020=1, otherwise=0
16	AR(1)	0.84530	0.04238	19.944	First order autoregressive term

17	Model Statistics	
18	Iterations	9
19	Adjusted Observations	179
20	Deg. of Freedom for Error	164
21	R-Squared	0.902
22	Adjusted R-Squared	0.893
23	AIC	15.448
24	BIC	15.716
25	F-Statistic	
26	Prob (F-Statistic)	
27	Log-Likelihood	-1,621.62
28	Model Sum of Squares	7,105,630,548.68
29	Sum of Squared Errors	774,874,912.15
30	Mean Squared Error	4,724,847.03
31	Std. Error of Regression	2,173.67
32	Mean Abs. Dev. (MAD)	1,584.88
33	Mean Abs. % Err. (MAPE)	2.41%
34	Durbin-Watson Statistic	2.172
35	Durbin-H Statistic	
36	Ljung-Box Statistic	15.28
37	Prob (Ljung-Box)	0.9123
38	Skewness	-0.012
39	Kurtosis	3.508
40	Jarque-Bera	1.929
41	Prob (Jarque-Bera)	0.3812

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Wholesale Farmers

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	CGCP_FARMERS	6.165	0.307	20.057	Real Gross County Product of Farmers
3	Feb	-1787.577	542.139	-3.297	Seasonal binary February
4	Mar	3439.565	689.731	4.987	Seasonal binary March
5	Apr	5013.778	741.587	6.761	Seasonal binary April
6	C65_cal_ROS_NM_May	16.827	3.308	5.086	Cooling degree days (May) Roswell NM
7	C65_cal_ROS_NM_Jun	15.854	1.620	9.786	Cooling degree days (June) Roswell NM
8	C65_cal_ROS_NM_Jul	24.173	1.428	16.929	Cooling degree days (July) Roswell NM
9	C65_cal_ROS_NM_Aug	25.442	1.445	17.608	Cooling degree days (August) Roswell NM
10	C65_cal_ROS_NM_Sep	14.219	2.375	5.988	Cooling degree days (September) Roswell NM
11	C65_cal_ROS_NM_Oct	16.814	7.599	2.213	Cooling degree days (October) Roswell NM
12	Binary.Bin0806	-4251.137	1665.472	-2.553	Binary variable for August 2006=1, otherwise=0
13	Binary.Bin0817	-5542.791	1669.796	-3.319	Binary variable for August 2017=1, otherwise=0
14	Binary.Bin0707	4723.254	1660.880	2.844	Binary variable for July 2007=1, otherwise=0
15	Binary.Bin0614	-3620.838	1676.428	-2.160	Binary variable for June 2014=1, otherwise=0
16	AR(1)	0.882	0.037	23.855	First order autoregressive term
17	**Model Statistics**				
18	Iterations	7			
19	Adjusted Observations	179			
20	Deg. of Freedom for Error	164			
21	R-Squared	0.882			
22	Adjusted R-Squared	0.872			
23	AIC	15.444			
24	BIC	15.711			
25	F-Statistic				
26	Prob (F-Statistic)				
27	Log-Likelihood	-1,621.21			
28	Model Sum of Squares	5,777,973,481.19			
29	Sum of Squared Errors	771,280,943.06			
30	Mean Squared Error	4,702,932.58			
31	Std. Error of Regression	2,168.62			
32	Mean Abs. Dev. (MAD)	1,685.90			
33	Mean Abs. % Err. (MAPE)	5.36%			
34	Durbin-Watson Statistic	1.940			
35	Durbin-H Statistic				
36	Ljung-Box Statistic	55.18			
37	Prob (Ljung-Box)	0.0003			
38	Skewness	0.173			
39	Kurtosis	2.590			
40	Jarque-Bera	2.142			
41	Prob (Jarque-Bera)	0.3426			

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Wholesale Lea County

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	CGCP_LEA	4.247	0.271	15.689	Real Gross County Product of Lea
3	Feb	-6727.573	1539.233	-4.371	Seasonal binary variable for February
4	Mar	6728.148	1916.730	3.510	Seasonal binary variable for March
5	Apr	7641.400	2082.370	3.670	Seasonal binary variable for April
6	C65_cal_ROS_NM_May	56.450	9.196	6.139	Cooling degree days (May) Roswell NM
7	C65_cal_ROS_NM_Jun	36.925	4.357	8.475	Cooling degree days (June) Roswell NM
8	C65_cal_ROS_NM_Jul	55.449	3.784	14.652	Cooling degree days (July) Roswell NM
9	C65_cal_ROS_NM_Aug	64.612	3.648	17.713	Cooling degree days (August) Roswell NM
10	C65_cal_ROS_NM_Sep	27.258	5.363	5.083	Cooling degree days (September) Roswell NM
11	Binary.Bin1218	-29837.242	4507.536	-6.619	Binary variable for December 2018=1, otherwise=0
12	Binary.Bin0419	-29291.541	5374.078	-5.451	Binary variable for April 2019=1, otherwise=0
13	Binary.Bin0519	-33703.428	5348.476	-6.302	Binary variable for May 2019=1, otherwise=0
14	Binary.Bin1119	-21328.162	4509.017	-4.730	Binary variable for November 2019=1, otherwise=0
15	Binary.Bin0220	18146.201	4668.625	3.887	Binary variable for February 2020=1, otherwise=0
16	AR(1)	0.919	0.031	30.027	First order autoregressive term
17	**Model Statistics**				
18	Iterations	7			
19	Adjusted Observations	179			
20	Deg. of Freedom for Error	164			
21	R-Squared	0.848			
22	Adjusted R-Squared	0.835			
23	AIC	17.525			
24	BIC	17.792			
25	F-Statistic				
26	Prob (F-Statistic)				
27	Log-Likelihood	-1,807.50			
28	Model Sum of Squares	34,417,442,537.35			
29	Sum of Squared Errors	6,182,674,131.45			
30	Mean Squared Error	37,699,232.51			
31	Std. Error of Regression	6,139.97			
32	Mean Abs. Dev. (MAD)	4,652.38			
33	Mean Abs. % Err. (MAPE)	4.66%			
34	Durbin-Watson Statistic	2.251			
35	Durbin-H Statistic				
36	Ljung-Box Statistic	26.41			
37	Prob (Ljung-Box)	0.3327			
38	Skewness	-0.045			
39	Kurtosis	2.969			
40	Jarque-Bera	0.068			
41	Prob (Jarque-Bera)	0.9665			

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Wholesale Roosevelt

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	CGCP_ROOSEVELT	2.381	0.156	15.276	Real Gross County Product of Roosevelt
3	Feb	-649.178	263.778	-2.461	Seasonal binary variable for February
4	Mar	2114.322	336.869	6.276	Seasonal binary variable for March
5	Apr	2946.029	364.059	8.092	Seasonal binary variable for April
6	C65_cal_ROS_NM_May	8.025	1.588	5.053	Cooling degree days (May) Roswell NM
7	C65_cal_ROS_NM_Jun	7.625	0.781	9.759	Cooling degree days (June) Roswell NM
8	C65_cal_ROS_NM_Jul	11.779	0.703	16.744	Cooling degree days (July) Roswell NM
9	C65_cal_ROS_NM_Aug	12.204	0.656	18.613	Cooling degree days (August) Roswell NM
10	C65_cal_ROS_NM_Sep	7.757	0.982	7.900	Cooling degree days (September) Roswell NM
11	NM_PRECIP_MaythruAug	-169.942	70.822	-2.400	Precipitation inches (May, June, July, August)
12	Nov	-764.468	205.058	-3.728	Seasonal binary variable for November
13	Binary.Bin0707	1810.003	830.544	2.179	Binary variable July 2007=1, otherwise=0
14	Binary.Bin1015	-2474.159	818.678	-3.022	Binary variable October 2015=1, otherwise=0
15	Binary.Bin0916	-3663.781	819.494	-4.471	Binary variable September 2016=1, otherwise=0
16	Binary.Bin0817	-4067.101	809.436	-5.025	Binary variable August 2017=1, otherwise=0
17	Binary.Bin0614	-2535.788	861.106	-2.945	Binary variable June 2014=1, otherwise=0
18	AR(1)	0.906	0.033	27.642	First order autoregressive term

19	**Model Statistics**	
20	Iterations	6
21	Adjusted Observations	179
22	Deg. of Freedom for Error	162
23	R-Squared	0.893
24	Adjusted R-Squared	0.883
25	AIC	14.032
26	BIC	14.334
27	F-Statistic	
28	Prob (F-Statistic)	
29	Log-Likelihood	-1,492.81
30	Model Sum of Squares	1,534,902,066.08
31	Sum of Squared Errors	183,731,825.89
32	Mean Squared Error	1,134,147.07
33	Std. Error of Regression	1,064.96
34	Mean Abs. Dev. (MAD)	771.38
35	Mean Abs. % Err. (MAPE)	5.24%
36	Durbin-Watson Statistic	2.186
37	Durbin-H Statistic	
38	Ljung-Box Statistic	31.29
39	Prob (Ljung-Box)	0.1456
40	Skewness	0.039
41	Kurtosis	3.270
42	Jarque-Bera	0.589
43	Prob (Jarque-Bera)	0.7451

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Retail Peak Demand

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	MA_Retail_Sales	0.001	0.000	67.254	12-month moving average of actual total retail sales adjusted for DSM savings, sale of Lubbock assets, wind generation, and forecasted new load additions.
3	HDD_Jan_PD	9.343	1.043	8.956	Heating Degree Days, Peak Day, January Calendar Month
4	HDD_Feb_PD	8.898	1.049	8.482	Heating Degree Days, Peak Day, February Calendar Month
5	HDD_Mar_PD	6.842	1.399	4.892	Heating Degree Days, Peak Day, March Calendar Month
6	AvgTemp_SPS_Apr	4.027	0.586	6.867	Average peak day temperature for the month of April
7	AvgTemp_SPS_May	8.610	0.594	14.484	Average peak day temperature for the month of May
8	AvgTemp_SPS_Jun	11.392	0.507	22.458	Average peak day temperature for the month of June
9	AvgTemp_SPS_Jul	12.072	0.497	24.271	Average peak day temperature for the month of July
10	AvgTemp_SPS_Aug	12.261	0.519	23.646	Average peak day temperature for the month of August
11	AvgTemp_SPS_Sep	9.636	0.538	17.916	Average peak day temperature for the month of September
12	AvgTemp_SPS_Oct	4.942	0.606	8.148	Average peak day temperature for the month of October
13	HDD_Nov_PD	8.560	1.266	6.759	Heating Degree Days, Peak Day, November Calendar Month
14	HDD_Dec_PD	9.662	1.047	9.229	Heating Degree Days, Peak Day, December Calendar Month
15	AprMayJun_Precip_1WKB4	-193.460	40.359	-4.793	Sum of the number of precipitation inches in the week prior to the peak day, Calendar Months April, May, June
16	JulAugSep_Precip_1WKB4	-65.941	22.444	-2.938	Sum of the number of precipitation inches in the week prior to the peak day, Calendar Months July, August, September
17	Binary.Bin1008	-334.351	98.096	-3.408	Binary variable October 2008=1, otherwise=0
18	Binary.Bin1011	-251.109	98.054	-2.561	Binary variable October 2011=1, otherwise=0
19	Binary.Bin0415	-321.208	99.945	-3.214	Binary variable April 2015=1, otherwise=0
20	Binary.Bin0615	-288.827	99.466	-2.904	Binary variable June 2015=1, otherwise=0
21	Binary.Bin0516	-451.474	99.411	-4.541	Binary variable for May 2016=1, otherwise=0
22	Binary.Bin0520	-393.514	101.255	-3.886	Binary variable for May 2020=1, otherwise=0
23	Binary.Bin0420	-350.058	103.128	-3.394	Binary variable for April 2020=1, otherwise=0
24	AR(1)	0.256	0.082	3.114	First order autoregressive term

25	**Model Statistics**	
26	Iterations	12
27	Adjusted Observations	179
28	Deg. of Freedom for Error	156
29	R-Squared	0.943
30	Adjusted R-Squared	0.935
31	AIC	9.279
32	BIC	9.688
33	F-Statistic	
34	Prob (F-Statistic)	
35	Log-Likelihood	-1,061.45
36	Model Sum of Squares	24,389,779.89
37	Sum of Squared Errors	1,482,573.30
38	Mean Squared Error	9,503.67
39	Std. Error of Regression	97.49
40	Mean Abs. Dev. (MAD)	71.16
41	Mean Abs. % Err. (MAPE)	2.64%
42	Durbin-Watson Statistic	2.005
43	Durbin-H Statistic	
44	Ljung-Box Statistic	22.81
45	Prob (Ljung-Box)	0.5311
46	Skewness	-0.182
47	Kurtosis	2.916
48	Jarque-Bera	1.039
49	Prob (Jarque-Bera)	0.5949

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Retail Peak Demand

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	HDD_Jan_ROS	2.904	0.531	5.469	Heating Degree Days, Peak Day, January Calendar Month
3	HDD_Feb_ROS	2.869	0.550	5.213	Heating Degree Days, Peak Day, February Calendar Month
4	HDD_Mar_ROS	2.865	0.730	3.927	Heating Degree Days, Peak Day, March Calendar Month
5	HDD_Nov_ROS	2.044	0.656	3.118	Heating Degree Days, Peak Day, November Calendar Month
6	HDD_Dec_ROS	3.117	0.514	6.059	Heating Degree Days, Peak Day, December Calendar Month
7	AvgTemp_ROS_Apr	1.874	0.265	7.059	Average peak day temperature for the month of April
8	AvgTemp_ROS_May	3.030	0.272	11.135	Average peak day temperature for the month of May
9	AvgTemp_ROS_Jun	4.262	0.267	15.974	Average peak day temperature for the month of June
10	AvgTemp_ROS_Jul	4.706	0.276	17.046	Average peak day temperature for the month of July
11	AvgTemp_ROS_Aug	4.775	0.279	17.115	Average peak day temperature for the month of August
12	AvgTemp_ROS_Sep	3.900	0.285	13.700	Average peak day temperature for the month of September
13	AvgTemp_ROS_Oct	1.670	0.284	5.881	Average peak day temperature for the month of October
14	AprthruSep_Precip_1WkB4	-59.364	15.567	-3.814	Sum of the number of precipitation inches in the week prior to the peak day, Calendar Months April, May, June, July, August, September
15	REC_Sales_CFLR_12MA	0.003	0.001	5.041	12-month moving average of actual full requirements wholesale sales
16	Binary.Bin1006	108.402	39.526	2.743	Binary variable October 2006=1, otherwise=0
17	Binary.Bin0619	-438.150	49.848	-8.790	Binary variable June 2019=1, otherwise=0
18	Binary.Bin0719	-459.791	61.465	-7.481	Binary variable July 2019=1, otherwise=0
19	Binary.Bin0819	-362.633	61.212	-5.924	Binary variable August 2019=1, otherwise=0
20	Binary.Bin0919	-233.187	50.458	-4.621	Binary variable September 2019=1, otherwise=0
21	AR(1)	0.966	0.025	38.311	First order autoregressive term

22	**Model Statistics**	
23	Iterations	10
24	Adjusted Observations	179
25	Deg. of Freedom for Error	159
26	R-Squared	0.948
27	Adjusted R-Squared	0.942
28	AIC	8.041
29	BIC	8.397
30	F-Statistic	
31	Prob (F-Statistic)	
32	Log-Likelihood	-953.68
33	Model Sum of Squares	8,119,840.64
34	Sum of Squared Errors	444,721.66
35	Mean Squared Error	2,796.99
36	Std. Error of Regression	52.89
37	Mean Abs. Dev. (MAD)	39.86
38	Mean Abs. % Err. (MAPE)	5.37%
39	Durbin-Watson Statistic	2.052
40	Durbin-H Statistic	
41	Ljung-Box Statistic	12.79
42	Prob (Ljung-Box)	0.9695
43	Skewness	-0.033
44	Kurtosis	2.991
45	Jarque-Bera	0.033
46	Prob (Jarque-Bera)	0.9836

Southwestern Public Service Company

Weather Normalization of SPS Adjusted Base Period Peak Demand

Golden Spread Electric Cooperative Full Requirements Peak Demand

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	GSEC_Sales_12MA	0.001	0.000	36.172	12 month moving average of Golden Spread sales
3	Mar_Pan_AvgPDTemp	2.242	0.432	5.187	Average Panhandle Peak Day temperature for the month of March
4	Apr_Pan_AvgPDTemp	4.262	0.318	13.392	Average Panhandle Peak Day temperature for the month of April
5	May_Pan_AvgPDTemp	5.070	0.339	14.956	Average Panhandle Peak Day temperature for the month of May
6	Jun_Pan_AvgPDTemp	6.735	0.293	22.963	Average Panhandle Peak Day temperature for the month of June
7	Jul_Pan_AvgPDTemp	8.697	0.282	30.862	Average Panhandle Peak Day temperature for the month of July
8	Aug_Pan_AvgPDTemp	8.766	0.295	29.746	Average Panhandle Peak Day temperature for the month of August
9	Sep_Pan_AvgPDTemp	6.184	0.311	19.881	Average Panhandle Peak Day temperature for the month of September
10	Oct_Pan_AvgPDTemp	0.707	0.284	2.490	Average Panhandle Peak Day temperature for the month of October
11	AprMayJun_Precip_1WkB4_Pan	-104.745	20.344	-5.149	Sum of the number of Panhandle precipitation inches in the week prior to the peak day, Calendar Months April, May, June
12	JulAugSep_1WkB4_Pan	-32.810	11.518	-2.849	Sum of the number of Panhandle precipitation inches in the week prior to the peak day, Calendar Months July, August, September
13	Binary.Bin0906	-342.815	65.431	-5.239	Binary variable September 2006=1, otherwise=0
14	Binary.Bin0614	-319.606	64.980	-4.919	Binary variable June 2014=1, otherwise=0
15	Binary.Bin0914	163.857	65.451	2.504	Binary variable September 2014=1, otherwise=0
16	Binary.Bin0916	-449.286	65.329	-6.877	Binary variable September 2016=1, otherwise=0
17	Binary.Bin1008	341.774	69.991	4.883	Binary variable October 2008=1, otherwise=0
18	Binary.Bin0908	-250.649	70.403	-3.560	Binary variable September 2008=1, otherwise=0
19	AR(1)	0.486	0.070	6.925	First order autoregressive term

20	**Model Statistics**	
21	Iterations	8
22	Adjusted Observations	179
23	Deg. of Freedom for Error	161
24	R-Squared	0.952
25	Adjusted R-Squared	0.947
26	AIC	8.583
27	BIC	8.904
28	F-Statistic	
29	Prob (F-Statistic)	
30	Log-Likelihood	-1,004.20
31	Model Sum of Squares	15,514,765.21
32	Sum of Squared Errors	782,030.28
33	Mean Squared Error	4,857.33
34	Std. Error of Regression	69.69
35	Mean Abs. Dev. (MAD)	49.75
36	Mean Abs. % Err. (MAPE)	7.07%
37	Durbin-Watson Statistic	1.972
38	Durbin-H Statistic	
39	Ljung-Box Statistic	22.12
40	Prob (Ljung-Box)	0.5724
41	Skewness	0.193
42	Kurtosis	3.673
43	Jarque-Bera	4.493
44	Prob (Jarque-Bera)	0.1058

Southwestern Public Service Company

Forecast Adjustments

New Mexico Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric Sales - New Mexico
Calendar Month - MONTHLY MWH

	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-22	118,210	194,966	439,581	549	13,508	766,814
Aug-22	114,176	199,056	465,322	549	13,522	792,625
Sep-22	81,135	189,083	462,779	549	12,973	746,520
Oct-22	74,847	174,079	455,897	550	10,990	716,362
Nov-22	85,230	174,839	443,546	550	8,696	712,860
Dec-22	122,421	173,912	475,703	550	10,558	783,144
Jan-23	121,147	189,547	435,003	550	10,402	756,648
Feb-23	93,911	152,241	416,671	550	8,792	672,165
Mar-23	95,250	196,171	469,675	550	11,969	773,616
Apr-23	64,697	182,116	466,589	550	7,885	721,837
May-23	77,496	203,429	503,572	550	11,063	796,110
Jun-23	101,368	210,144	470,715	550	12,572	795,348
Total	**1,149,888**	**2,239,582**	**5,505,053**	**6,598**	**132,929**	**9,034,049**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail
Jul-22	118,210	194,966	439,581	549	13,508	766,814
Aug-22	232,386	394,022	904,903	1,098	27,029	1,559,439
Sep-22	313,522	583,105	1,367,682	1,648	40,002	2,305,959
Oct-22	388,369	757,183	1,823,580	2,197	50,992	3,022,321
Nov-22	473,598	932,022	2,267,126	2,747	59,688	3,735,181
Dec-22	596,020	1,105,934	2,742,828	3,297	70,246	4,518,325
Jan-23	717,166	1,295,481	3,177,831	3,847	80,648	5,274,973
Feb-23	811,077	1,447,722	3,594,502	4,397	89,440	5,947,138
Mar-23	906,327	1,643,893	4,064,177	4,947	101,409	6,720,753
Apr-23	971,024	1,826,009	4,530,766	5,498	109,294	7,442,591
May-23	1,048,521	2,029,438	5,034,338	6,048	120,357	8,238,701
Jun-23	1,149,888	2,239,582	5,505,053	6,598	132,929	9,034,049

Southwestern Public Service Company

Forecast Adjustments

Texas Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric Sales - Texas
Calendar Month - MONTHLY MWH

	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-22	263,778	300,689	657,881	1,248	31,214	1,254,810
Aug-22	255,479	307,311	638,790	1,221	37,862	1,240,663
Sep-22	180,057	255,287	657,266	1,195	32,204	1,126,008
Oct-22	167,540	250,649	654,395	1,169	28,561	1,102,314
Nov-22	170,453	251,427	655,094	1,144	27,300	1,105,419
Dec-22	231,243	254,411	666,701	1,120	30,449	1,183,924
Jan-23	231,142	244,162	677,012	1,120	27,601	1,181,038
Feb-23	204,298	214,556	636,464	1,120	24,789	1,081,227
Mar-23	193,292	251,044	659,631	1,120	34,519	1,139,606
Apr-23	152,016	232,685	663,384	1,120	23,226	1,072,430
May-23	174,519	275,625	693,508	1,120	25,820	1,170,592
Jun-23	213,578	277,093	699,042	1,120	26,480	1,217,313
Total	**2,437,397**	**3,114,939**	**7,959,169**	**13,816**	**350,024**	**13,875,345**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail
Jul-22	263,778	300,689	657,881	1,248	31,214	1,254,810
Aug-22	519,257	608,000	1,296,671	2,470	69,076	2,495,473
Sep-22	699,314	863,286	1,953,937	3,665	101,279	3,621,481
Oct-22	866,854	1,113,935	2,608,332	4,834	129,840	4,723,795
Nov-22	1,037,307	1,365,362	3,263,426	5,978	157,140	5,829,214
Dec-22	1,268,551	1,619,774	3,930,127	7,098	187,588	7,013,138
Jan-23	1,499,693	1,863,936	4,607,140	8,218	215,190	8,194,176
Feb-23	1,703,992	2,078,492	5,243,604	9,337	239,978	9,275,403
Mar-23	1,897,284	2,329,536	5,903,235	10,457	274,498	10,415,009
Apr-23	2,049,300	2,562,220	6,566,619	11,576	297,724	11,487,440
May-23	2,223,820	2,837,846	7,260,127	12,696	323,543	12,658,032
Jun-23	2,437,397	3,114,939	7,959,169	13,816	350,024	13,875,345

Southwestern Public Service Company

Forecast Adjustments

SPS Partial Requirements Wholesale Sales

Sales (In MWh) Calendar Month		Central Valley	Farmers	Lea County	Roosevelt	Total
Jul-22	Actual	29,760	14,136	41,664	7,440	93,000
Aug-22	Actual	29,760	14,136	41,664	7,440	93,000
Sep-22	Actual	28,800	13,680	40,320	7,200	90,000
Oct-22	Actual	29,760	14,136	41,664	7,440	93,000
Nov-22	Actual	28,800	13,680	40,320	7,200	90,000
Dec-22	Actual	29,760	14,136	41,664	7,440	93,000
Jan-23	Actual	29,760	14,136	41,664	7,440	93,000
Feb-23	Actual	26,880	12,768	37,632	6,720	84,000
Mar-23	Actual	29,760	14,136	41,664	7,440	93,000
Apr-23	Actual	28,800	13,680	40,320	7,200	90,000
May-23	Actual	29,760	14,136	41,664	7,440	93,000
Jun-23	Actual	28,800	13,680	40,320	7,200	90,000
Annual Total		**350,400**	**166,440**	**490,560**	**87,600**	**1,095,000**

Southwestern Public Service Company

Forecast Adjustments

New Mexico Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric - Retail Peak
Calendar Month - MONTHLY MW

	Retail Peak MW	Wholesale Partail Requirements MW	GSEC Load MW
Jul-22	3,600	125	1,376
Aug-22	3,686	125	1,372
Sep-22	3,454	125	930
Oct-22	2,977	125	648
Nov-22	2,956	125	603
Dec-22	3,088	125	609
Jan-23	3,116	125	596
Feb-23	3,155	125	587
Mar-23	2,970	125	674
Apr-23	3,012	125	907
May-23	3,430	125	941
Jun-23	3,716	125	1,165
Total	**39,161**	**1,500**	**10,408**

YEAR TO DATE MW

	Retail Peak MW	Wholesale Partail Requirements MW	GSEC Load MW
Jul-22	3,600	125	1,376
Aug-22	7,286	250	2,748
Sep-22	10,740	375	3,678
Oct-22	13,717	500	4,326
Nov-22	16,673	625	4,929
Dec-22	19,761	750	5,538
Jan-23	22,877	875	6,134
Feb-23	26,032	1,000	6,721
Mar-23	29,002	1,125	7,395
Apr-23	32,015	1,250	8,302
May-23	35,445	1,375	9,242
Jun-23	39,161	1,500	10,408

Southwestern Public Service Company

Forecast Adjustments

Check 125

Load Factor	**1**		Demand MW						Energy MWh			
Year	Month	Days in Month	Central Valley	Farmers	Lea County	Roosevelt	Hrs/Day		Central Valley	Farmers	Lea County	Roosevelt
2022	Jul	31	40	19	56	10	744	Jul-22	29,760	14,136	41,664	7,440
2022	Aug	31	40	19	56	10	744	Aug-22	29,760	14,136	41,664	7,440
2022	Sep	30	40	19	56	10	720	Sep-22	28,800	13,680	40,320	7,200
2022	Oct	31	40	19	56	10	744	Oct-22	29,760	14,136	41,664	7,440
2022	Nov	30	40	19	56	10	720	Nov-22	28,800	13,680	40,320	7,200
2022	Dec	31	40	19	56	10	744	Dec-22	29,760	14,136	41,664	7,440
2023	Jan	31	40	19	56	10	744	Jan-23	29,760	14,136	41,664	7,440
2023	Feb	28	40	19	56	10	672	Feb-23	26,880	12,768	37,632	6,720
2023	Mar	31	40	19	56	10	744	Mar-23	29,760	14,136	41,664	7,440
2023	Apr	30	40	19	56	10	720	Apr-23	28,800	13,680	40,320	7,200
2023	May	31	40	19	56	10	744	May-23	29,760	14,136	41,664	7,440
2023	Jun	30	40	19	56	10	720	Jun-23	28,800	13,680	40,320	7,200

Southwestern Public Service Company

Forecast Regression Models and Associated Statistics

New Mexico Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric Sales - New Mexico
Calendar Month - MONTHLY MWH

	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-23	115,849	210,483	526,022	550	13,303	866,207
Aug-23	116,607	198,398	500,476	550	14,211	830,241
Sep-23	80,706	190,093	546,396	550	11,403	829,147
Oct-23	76,152	177,212	536,807	550	11,086	801,807
Nov-23	85,368	183,666	520,359	550	8,538	798,481
Dec-23	120,401	173,250	556,483	550	10,591	861,276
Jan-24	126,042	206,053	498,055	550	10,574	841,275
Feb-24	84,678	177,983	476,225	550	8,952	748,388
Mar-24	94,409	237,957	533,259	550	12,250	878,425
Apr-24	68,753	184,253	527,323	550	6,886	787,766
May-24	78,742	191,426	518,353	550	11,090	800,162
Jun-24	104,597	187,121	530,583	550	12,726	835,578
Total	**1,152,303**	**2,317,895**	**6,270,343**	**6,601**	**131,610**	**9,878,752**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail
Jul-23	115,849	210,483	526,022	550	13,303	866,207
Aug-23	232,455	408,881	1,026,498	1,100	27,514	1,696,448
Sep-23	313,161	598,973	1,572,894	1,650	38,917	2,525,595
Oct-23	389,313	776,185	2,109,701	2,200	50,003	3,327,403
Nov-23	474,680	959,851	2,630,061	2,750	58,541	4,125,884
Dec-23	595,082	1,133,101	3,186,544	3,300	69,132	4,987,159
Jan-24	721,124	1,339,154	3,684,600	3,851	79,706	5,828,434
Feb-24	805,801	1,517,137	4,160,825	4,401	88,658	6,576,822
Mar-24	900,210	1,755,094	4,694,084	4,951	100,908	7,455,247
Apr-24	968,963	1,939,348	5,221,407	5,501	107,794	8,243,013
May-24	1,047,705	2,130,774	5,739,760	6,051	118,885	9,043,175
Jun-24	1,152,303	2,317,895	6,270,343	6,601	131,610	9,878,752

Southwestern Public Service Company

Forecast Regression Models and Associated Statistics

Texas Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric Sales - Texas
Calendar Month - MONTHLY MWH

	WN Sales Cal Mth Res	WN Sales Cal Mth Small C&I	WN Sales Cal Mth Large C&I	WN Sales Cal Mth Street	WN Sales Cal Mth Other Sale Auth	WN Sales Cal Mth Retail
Jul-23	256,197	314,204	727,706	1,120	32,338	1,331,565
Aug-23	253,707	286,060	721,336	1,120	40,522	1,302,746
Sep-23	191,382	263,508	720,165	1,120	29,036	1,205,210
Oct-23	158,360	250,143	700,395	1,120	33,552	1,143,570
Nov-23	170,805	248,017	702,048	1,120	32,096	1,154,087
Dec-23	231,942	253,986	707,576	1,120	23,913	1,218,538
Jan-24	233,412	261,161	750,075	1,120	27,641	1,273,408
Feb-24	166,684	226,127	659,300	1,120	24,750	1,077,981
Mar-24	172,389	251,670	716,128	1,120	36,378	1,177,684
Apr-24	155,105	204,322	676,936	1,120	22,241	1,059,724
May-24	175,651	261,466	658,837	1,120	25,581	1,122,655
Jun-24	209,643	278,760	663,731	1,120	25,807	1,179,060
Total	**2,375,278**	**3,099,426**	**8,404,233**	**13,435**	**353,856**	**14,246,228**

YEAR TO DATE MWH

	Actual Sales Cal Mth Res	Actual Sales Cal Mth Small C&I	Actual Sales Cal Mth Large C&I	Actual Sales Cal Mth Street	Actual Sales Cal Mth Other Sale Auth	Actual Sales Cal Mth Retail
Jul-23	256,197	314,204	727,706	1,120	32,338	1,331,565
Aug-23	509,904	600,265	1,449,042	2,239	72,860	2,634,311
Sep-23	701,286	863,773	2,169,207	3,359	101,896	3,839,521
Oct-23	859,646	1,113,916	2,869,603	4,478	135,449	4,983,091
Nov-23	1,030,451	1,361,933	3,571,651	5,598	167,545	6,137,178
Dec-23	1,262,393	1,615,919	4,279,227	6,718	191,458	7,355,715
Jan-24	1,495,805	1,877,080	5,029,302	7,837	219,099	8,629,123
Feb-24	1,662,489	2,103,207	5,688,602	8,957	243,849	9,707,105
Mar-24	1,834,878	2,354,877	6,404,730	10,076	280,227	10,884,789
Apr-24	1,989,983	2,559,200	7,081,665	11,196	302,468	11,944,512
May-24	2,165,635	2,820,666	7,740,502	12,316	328,049	13,067,168
Jun-24	2,375,278	3,099,426	8,404,233	13,435	353,856	14,246,228

Southwestern Public Service Company

Forecast Regression Models and Associated Statistics

SPS Partial Requirements Wholesale Sales

Sales (In MWh) Calendar Month		Central Valley	Farmers	Lea County	Roosevelt	Total
Jul-23	Actual	29,760	14,136	41,664	7,440	93,000
Aug-23	Actual	29,760	14,136	41,664	7,440	93,000
Sep-23	Actual	28,800	13,680	40,320	7,200	90,000
Oct-23	Actual	29,760	14,136	41,664	7,440	93,000
Nov-23	Actual	28,800	13,680	40,320	7,200	90,000
Dec-23	Actual	29,760	14,136	41,664	7,440	93,000
Jan-24	Actual	29,760	14,136	41,664	7,440	93,000
Feb-24	Actual	27,840	13,224	38,976	6,960	87,000
Mar-24	Actual	29,760	14,136	41,664	7,440	93,000
Apr-24	Actual	28,800	13,680	40,320	7,200	90,000
May-24	Actual	29,760	14,136	41,664	7,440	93,000
Jun-24	Actual	23,040	10,944	32,256	5,760	72,000
Annual Total		**345,600**	**164,160**	**483,840**	**86,400**	**1,080,000**

Southwestern Public Service Company

Forecast Regression Models and Associated Statistics

New Mexico Rate Case - Calendar Month Weather Normal Sales
30-Year Normal Weather
Southwestern Public Service Company Electric - Retail Peak
Calendar Month - MONTHLY MW

	Retail Peak MW	Wholesale Partail Requirements MW	GSEC Load MW
Jul-23	3,810	125	1,390
Aug-23	3,830	125	1,385
Sep-23	3,670	125	938
Oct-23	3,190	125	653
Nov-23	3,165	125	608
Dec-23	3,256	125	613
Jan-24	3,285	125	600
Feb-24	3,327	125	589
Mar-24	3,144	125	677
Apr-24	3,175	125	910
May-24	3,601	125	943
Jun-24	3,827	100	1,167
Total	**41,280**	**1,475**	**10,471**

YEAR TO DATE MW

	Retail Peak MW	Wholesale Partail Requirements MW	GSEC Load MW
Jul-23	3,810	125	1,390
Aug-23	7,640	250	2,774
Sep-23	11,310	375	3,712
Oct-23	14,500	500	4,365
Nov-23	17,665	625	4,973
Dec-23	20,921	750	5,586
Jan-24	24,206	875	6,185
Feb-24	27,533	1,000	6,775
Mar-24	30,677	1,125	7,452
Apr-24	33,852	1,250	8,361
May-24	37,453	1,375	9,304
Jun-24	41,280	1,475	10,471

Southwestern Public Service Company

Forecast Regression Models and Associated Statistics

Load Factor	**1**		Demand MW						Energy MWh			
Year	Month	Days in Month	Central Valley	Farmers	Lea County	Roosevelt	Hrs/Day		Central Valley	Farmers	Lea County	Roosevelt
2023	Jul	31	40	19	56	10	744	Jul-23	29,760	14,136	41,664	7,440
2023	Aug	31	40	19	56	10	744	Aug-23	29,760	14,136	41,664	7,440
2023	Sep	30	40	19	56	10	720	Sep-23	28,800	13,680	40,320	7,200
2023	Oct	31	40	19	56	10	744	Oct-23	29,760	14,136	41,664	7,440
2023	Nov	30	40	19	56	10	720	Nov-23	28,800	13,680	40,320	7,200
2023	Dec	31	40	19	56	10	744	Dec-23	29,760	14,136	41,664	7,440
2024	Jan	31	40	19	56	10	744	Jan-24	29,760	14,136	41,664	7,440
2024	Feb	29	40	19	56	10	696	Feb-24	27,840	13,224	38,976	6,960
2024	Mar	31	40	19	56	10	744	Mar-24	29,760	14,136	41,664	7,440
2024	Apr	30	40	19	56	10	720	Apr-24	28,800	13,680	40,320	7,200
2024	May	31	40	19	56	10	744	May-24	29,760	14,136	41,664	7,440
2024	Jun	30	32	15	45	8	720	Jun-24	23,040	10,944	32,256	5,760

Southwestern Public Service Company

Linkage Period Forecasted Sales and Peaks

Forecast Adjustment for Incremental DSM Savings at Delivery - MWh

	Residential Service	Residential Space Heat	Small C&I	Large C&I	Municipal and School Service	Total
Jul-22	442	265	(100)	(158)	(9)	441
Aug-22	437	270	(103)	(164)	(8)	432
Sep-22	351	214	(90)	(158)	(8)	308
Oct-22	255	158	(92)	(169)	(7)	145
Nov-22	232	154	(86)	(167)	(6)	126
Dec-22	239	174	(87)	(174)	(7)	145
Jan-23	448	374	(190)	(320)	(13)	298
Feb-23	384	335	(162)	(298)	(11)	248
Mar-23	424	357	(187)	(304)	(13)	276
Apr-23	419	333	(168)	(310)	(14)	261
May-23	490	329	(185)	(317)	(15)	303
Jun-23	821	490	(177)	(297)	(14)	823
Jul-23	885	530	(200)	(316)	(17)	882
Aug-23	874	541	(206)	(329)	(16)	864
Sep-23	701	428	(181)	(316)	(16)	617
Oct-23	510	315	(183)	(338)	(14)	290
Nov-23	463	307	(173)	(333)	(12)	252
Dec-23	478	348	(174)	(348)	(14)	290
Jan-24	672	561	(285)	(480)	(20)	447
Feb-24	596	520	(251)	(463)	(17)	385
Mar-24	636	536	(281)	(457)	(20)	415
Apr-24	629	500	(252)	(465)	(21)	392
May-24	736	494	(277)	(475)	(22)	455
Jun-24	1,231	735	(265)	(446)	(21)	1,235

Southwestern Public Service Company

Linkage Period Forecasted Sales and Peaks

Forecast Adjustment for Incremental Distributed Solar - MWh

	Residential Service	Residential Space Heat	Small C&I	Total
Jul-22	(149)	(219)	(50)	(418)
Aug-22	(155)	(215)	(132)	(503)
Sep-22	(122)	(159)	(77)	(358)
Oct-22	(106)	(136)	45	(197)
Nov-22	(129)	(164)	67	(226)
Dec-22	(144)	(179)	(28)	(351)
Jan-23	(208)	(290)	(50)	(548)
Feb-23	(253)	(378)	(31)	(662)
Mar-23	(270)	(387)	(28)	(684)
Apr-23	(289)	(398)	51	(635)
May-23	(309)	(411)	(50)	(770)
Jun-23	(316)	(426)	(129)	(871)
Jul-23	(304)	(424)	(123)	(851)
Aug-23	(307)	(415)	(204)	(926)
Sep-23	(262)	(343)	(145)	(750)
Oct-23	(235)	(305)	(19)	(559)
Nov-23	(247)	(318)	6	(559)
Dec-23	(253)	(323)	(87)	(663)
Jan-24	(316)	(433)	(106)	(856)
Feb-24	(371)	(532)	(102)	(1,005)
Mar-24	(398)	(554)	(101)	(1,053)
Apr-24	(421)	(573)	(7)	(1,001)
May-24	(452)	(599)	(109)	(1,160)
Jun-24	(465)	(622)	(187)	(1,274)

Southwestern Public Service Company

Linkage Period Forecasted Sales and Peaks

Forecast Adjustment for Large C&I Load Changes - MWh

	Total
Jul-22	3,591
Aug-22	5,123
Sep-22	6,440
Oct-22	9,031
Nov-22	11,040
Dec-22	13,785
Jan-23	20,171
Feb-23	23,988
Mar-23	32,944
Apr-23	38,266
May-23	46,138
Jun-23	51,034
Jul-23	58,597
Aug-23	64,460
Sep-23	68,054
Oct-23	71,489
Nov-23	70,312
Dec-23	73,823
Jan-24	79,794
Feb-24	80,232
Mar-24	91,737
Apr-24	95,121
May-24	104,846
Jun-24	107,807

Southwestern Public Service Company

Linkage Period Forecasted Sales and Peaks

Forecast Adjustment for Incremental Adoption of Electric Vehicles - MWh

	Residential Service	Residential Space Heat	Small C&I	Large C&I	Total
Jul-22	66	31	4	15	117
Aug-22	71	33	5	17	125
Sep-22	75	35	5	19	133
Oct-22	79	37	5	20	141
Nov-22	83	39	6	21	150
Dec-22	88	41	6	23	158
Jan-23	92	43	7	23	165
Feb-23	95	44	8	24	172
Mar-23	99	46	9	25	179
Apr-23	103	48	8	27	186
May-23	106	49	9	28	192
Jun-23	110	51	9	29	199
Jul-23	114	52	8	32	206
Aug-23	118	54	9	33	213
Sep-23	121	56	9	34	220
Oct-23	125	57	9	35	227
Nov-23	129	59	12	34	234
Dec-23	133	61	11	37	241
Jan-24	139	64	14	38	255
Feb-24	146	66	15	41	268
Mar-24	152	69	16	44	282
Apr-24	159	72	15	50	296
May-24	165	75	16	53	309
Jun-24	171	78	16	57	323

Southwestern Public Service Company

Future Test Year Forecasted Sales and Peaks

New Mexico Residential Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	CYPperHH_NM	280.857	4.008	70.074	Real Personal Income per Household New Mexico
3	H65_bill_ResSvc_NM_Jan	0.001	0.000	36.649	Heating degree days (January) multiplied by customers
4	H65_bill_ResSvc_NM_Feb	0.000	0.000	18.411	Heating degree days (February) multiplied by customers
5	H65_bill_ResSvc_NM_Mar	0.000	0.000	13.058	Heating degree days (March) multiplied by customers
6	H65_bill_ResSvc_NM_Dec	0.000	0.000	18.443	Heating degree days (December) multiplied by customers
7	C65_bill_ResSvc_NM_May	0.000	0.000	4.001	Cooling degree days (May) multiplied by customers
8	C65_bill_ResSvc_NM_Jun	0.001	0.000	24.303	Cooling degree days (June) multiplied by customers
9	C65_bill_ResSvc_NM_Jul	0.001	0.000	38.414	Cooling degree days (July) multiplied by customers
10	C65_bill_ResSvc_NM_Aug	0.001	0.000	40.818	Cooling degree days (August) multiplied by customers
11	C65_bill_ResSvc_NM_Sep	0.001	0.000	29.752	Cooling degree days (September) multiplied by customers
12	C65_bill_ResSvc_NM_Oct	0.001	0.000	13.556	Cooling degree days (October) multiplied by customers
13	Binary.StructuralChange2	1638.591	639.473	2.562	Binary variable for (January=1 and 2018=1) or 2018>1, otherwise=0
14	Binary.Bin0321	10080.591	2521.829	3.997	Binary variable for March 2021=1, otherwise=0
15	Binary.Bin0322	9422.369	2621.146	3.595	Binary variable for March 2022=1, otherwise=0
16	MA(1)	0.204	0.075	2.704	First Order Moving Average
17	MA(2)	0.298	0.074	4.016	Second Order Moving Average

18	Model Statistics	
19	Iterations	36
20	Adjusted Observations	185
21	Deg. of Freedom for Error	169
22	R-Squared	0.962
23	Adjusted R-Squared	0.959
24	AIC	15.742
25	BIC	16.020
26	F-Statistic	
27	Prob (F-Statistic)	
28	Log-Likelihood	-1,702.60
29	Model Sum of Squares	27,090,746,464.20
30	Sum of Squared Errors	1,067,920,657.05
31	Mean Squared Error	6,319,057.14
32	Std. Error of Regression	2,513.77
33	Mean Abs. Dev. (MAD)	1,946.11
34	Mean Abs. % Err. (MAPE)	4.20%
35	Durbin-Watson Statistic	1.891
36	Durbin-H Statistic	
37	Ljung-Box Statistic	97.78
38	Prob (Ljung-Box)	0.0000
39	Skewness	-0.198
40	Kurtosis	2.747
41	Jarque-Bera	1.701
42	Prob (Jarque-Bera)	0.4271

Southwestern Public Service Company

Future Test Year Forecasted Sales and Peaks

New Mexico Residential Space Heat

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	Trend2014	-18.33749	7.01591	-2.614	Linear binary variable for decreasing sales, Januuary 2014=1 and increasing by 1 each month thereafter
3	H65_bill_ResSpHt_NM_Jan	0.00132	0.00004	34.959	Heating degree days (January) multiplied by customers
4	H65_bill_ResSpHt_NM_Feb	0.00126	0.00005	26.511	Heating degree days (February) multiplied by customers
5	H65_bill_ResSpHt_NM_Mar	0.00103	0.00005	18.711	Heating degree days (March) multiplied by customers
6	H65_bill_ResSpHt_NM_Nov	0.00124	0.00030	4.065	Heating degree days (November) multiplied by customers
7	H65_bill_ResSpHt_NM_Dec	0.00129	0.00012	10.394	Heating degree days (December) multiplied by customers
8	C65_bill_ResSpHt_NM_Jun	0.00072	0.00007	9.748	Cooling degree days (June) multiplied by customers
9	C65_bill_ResSpHt_NM_Jul	0.00099	0.00006	17.695	Cooling degree days (July) multiplied by customers
10	C65_bill_ResSpHt_NM_Aug	0.00110	0.00005	20.654	Cooling degree days (August) multiplied by customers
11	C65_bill_ResSpHt_NM_Sep	0.00083	0.00006	12.886	Cooling degree days (September) multiplied by customers
12	HolidayVariable	-8166.86790	2113.70426	-3.864	Binary variable for November=1 and December=1, otherwise=0
13	BILLINGDAYS	1015.19263	17.31135	58.643	Number of Billing Days
14	Binary.Bin1019	5934.41395	2017.68037	2.941	Binary variable for October 2019=1, otherwise=0
15	SAR(1)	0.22887	0.07579	3.020	First Order Seasonal Auto Regressive Term
16	MA(1)	0.33880	0.07399	4.579	First Order Moving Average

17	**Model Statistics**	
18	Iterations	17
19	Adjusted Observations	173
20	Deg. of Freedom for Error	158
21	R-Squared	0.963
22	Adjusted R-Squared	0.960
23	AIC	15.487
24	BIC	15.760
25	F-Statistic	
26	Prob (F-Statistic)	
27	Log-Likelihood	-1,570.08
28	Model Sum of Squares	20,369,039,663.33
29	Sum of Squared Errors	773,672,209.35
30	Mean Squared Error	4,896,659.55
31	Std. Error of Regression	2,212.84
32	Mean Abs. Dev. (MAD)	1,602.40
33	Mean Abs. % Err. (MAPE)	4.04%
34	Durbin-Watson Statistic	1.905
35	Durbin-H Statistic	
36	Ljung-Box Statistic	16.73
37	Prob (Ljung-Box)	0.8601
38	Skewness	0.278
39	Kurtosis	4.235
40	Jarque-Bera	13.230
41	Prob (Jarque-Bera)	0.0013

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Future Test Year Forecasted Sales and Peaks

New Mexico Small Commercial and Industrial

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	EE_NM	584.327345	218.229	2.678	Non-farm employment, New Mexico service area
3	NM_Extraction	661.254384	222.046	2.978	Oil and Gas Extraction Index
4	H65_bill_SMCI_NM_Jan	0.000694	0.000	4.705	Heating degree days (January) multiplied by customers
5	H65_bill_SMCI_NM_NovDec	0.001689	0.000	4.037	Heating degree days (November and December) multiplied by customers
6	C65_bill_SMCI_NM_Jun	0.002239	0.000	7.125	Cooling degree days (June) multiplied by customers
7	C65_bill_SMCI_NM_Jul	0.002374	0.000	10.864	Cooling degree days (July) multiplied by customers
8	C65_bill_SMCI_NM_Aug	0.002151	0.000	10.464	Cooling degree days (August) multiplied by customers
9	C65_bill_SMCI_NM_Sep	0.001880	0.000	6.105	Cooling degree days (September) multiplied by customers
10	HolidayVariable	-18824.857868	3994.481	-4.713	Binary variable for November=1 and December=1, otherwise=0
11	Binary.Bin0320	35714.692670	8093.892	4.413	Binary variable for March 2020=1, otherwise=0
12	Binary.Bin0321	28549.405019	7887.511	3.620	Binary variable for March 2021=1, otherwise=0
13	Binary.Mar22Forward	25197.856499	7674.680	3.283	Binary variable for (March and 2022=1) or 2022>=1, otherwise=0
14	AR(1)	0.270290	0.065	4.173	First order autoregressive term
15	AR(2)	0.553432	0.065	8.559	Second order autoregressive term

16	Model Statistics	
17	Iterations	15
18	Adjusted Observations	183
19	Deg. of Freedom for Error	169
20	R-Squared	0.865
21	Adjusted R-Squared	0.854
22	AIC	18.337
23	BIC	18.583
24	F-Statistic	
25	Prob (F-Statistic)	
26	Log-Likelihood	-1,923.53
27	Model Sum of Squares	92,311,844,090.47
28	Sum of Squared Errors	14,447,261,504.18
29	Mean Squared Error	85,486,754.46
30	Std. Error of Regression	9,245.90
31	Mean Abs. Dev. (MAD)	7,100.26
32	Mean Abs. % Err. (MAPE)	5.65%
33	Durbin-Watson Statistic	2.398
34	Durbin-H Statistic	
35	Ljung-Box Statistic	189.69
36	Prob (Ljung-Box)	0.0000
37	Skewness	0.073
38	Kurtosis	2.735
39	Jarque-Bera	0.695
40	Prob (Jarque-Bera)	0.7066

Southwestern Public Service Company

Future Test Year Forecasted Sales and Peaks

New Mexico Large Commercial and Industrial

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	NM_Extraction	1782.412	46.901	38.004	Oil and Gas Extraction Index
3	Binary.Bin20	80446.831	10729.062	7.498	Binary variable for (April and 2020=1) or 2020>=1, otherwise=0
4	Binary.Bin21	67206.035	11127.959	6.039	Binary variable for (January and 2021=1) or 2021>=1, otherwise=0
5	Binary.Bin1115	33473.063	10961.430	3.054	Binary variable for November 2015=1, otherwise=0
6	Binary.Bin0122	31273.296	11234.582	2.784	Binary variable for January 2022=1, otherwise=0
7	Binary.Jun16Forward	58772.018	7320.415	8.029	Binary variable for (June and 2016=1) or 2016>=1, otherwise=0
8	Binary.Jan	15854.984	3246.941	4.883	Binary variable for January=1, otherwise=0
9	Binary.Apr	10194.111	2740.423	3.720	Binary variable for April=1, otherwise=0
10	Binary.Aug	7047.667	3202.392	2.201	Binary variable for August=1, otherwise=0
11	Binary.Sep	9020.756036	3201.0145	2.8180928	Binary variable for September=1, otherwise=0
12	Binary.Dec	10915.87916	3227.83	3.3818012	Binary variable for December=1, otherwise=0
13	AR(1)	0.704971165	0.060932	11.569804	First order autoregressive term

14	**Model Statistics**	
15	Iterations	23
16	Adjusted Observations	184
17	Deg. of Freedom for Error	172
18	R-Squared	0.968
19	Adjusted R-Squared	0.966
20	AIC	19.055
21	BIC	19.265
22	F-Statistic	
23	Prob (F-Statistic)	
24	Log-Likelihood	-2,002.19
25	Model Sum of Squares	921,336,164,506.55
26	Sum of Squared Errors	30,468,240,685.89
27	Mean Squared Error	177,140,934.22
28	Std. Error of Regression	13,309.43
29	Mean Abs. Dev. (MAD)	9,775.49
30	Mean Abs. % Err. (MAPE)	4.73%
31	Durbin-Watson Statistic	2.350
32	Durbin-H Statistic	
33	Ljung-Box Statistic	32.58
34	Prob (Ljung-Box)	0.1132
35	Skewness	0.394
36	Kurtosis	3.647
37	Jarque-Bera	7.977
38	Prob (Jarque-Bera)	0.0185

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Future Test Year Forecasted Sales and Peaks

New Mexico Muni & School Service

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	C65_bill_MuniSch_NM_Jun	4.687	0.744	6.303	Cooling degree days (June)
3	C65_bill_MuniSch_NM_Jul	4.645	0.514	9.032	Cooling degree days (July)
4	C65_bill_MuniSch_NM_Aug	5.710	0.485	11.781	Cooling degree days (August)
5	C65_bill_MuniSch_NM_Sep	9.010	0.695	12.956	Cooling degree days (September)
6	Binary.Oct	3382.711	264.204	12.803	Binary variable for October=1, otherwise=0
7	Binary.Bin0507	4779.628	1003.735	4.762	Binary variable for May 2007=1, otherwise=0
8	Binary.Bin0607	-8192.086	1011.234	-8.101	Binary variable for June 2007=1, otherwise=0
9	Binary.Bin0907	-6996.561	1027.728	-6.808	Binary variable for September 2007=1, otherwise=0
10	Binary.Bin1207	-9987.412	1007.532	-9.913	Binary variable for December 2007=1, otherwise=0
11	Binary.Bin0108	5103.233	1013.665	5.034	Binary variable for January 2008=1, otherwise=0
12	Binary.Bin0208	-4945.938	1012.977	-4.883	Binary variable for February 2008=1, otherwise=0
13	Binary.Bin0308	-5813.571	1005.453	-5.782	Binary variable for March 2008=1, otherwise=0
14	Binary.Bin0708	-6280.290	1026.827	-6.116	Binary variable for July 2008=1, otherwise=0
15	Binary.Bin0908	-5958.360	1024.666	-5.815	Binary variable for September 2008=1, otherwise=0
16	Binary.Bin1108	-8886.550	1002.679	-8.863	Binary variable for November 2008=1, otherwise=0
17	Binary.Bin1112	2484.379	979.426	2.537	Binary variable for November 2012=1, otherwise=0
18	Binary.Bin0114	2587.118	977.901	2.646	Binary variable for January 2014=1, otherwise=0
19	Binary.Bin0917	-2319.812	1009.740	-2.297	Binary variable for September 2017=1, otherwise=0
20	Binary.Bin040520	-1561.496	751.698	-2.077	Binary variable for April and May 2020=1, otherwise=0
21	AR(1)	1.000	0.002	484.201	First Order Auto Regressive Term
22	MA(1)	-0.735	0.057	-12.800	First Order Moving Average

23	Model Statistics	
24	Iterations	22
25	Adjusted Observations	184
26	Deg. of Freedom for Error	163
27	R-Squared	0.810
28	Adjusted R-Squared	0.787
29	AIC	14.022
30	BIC	14.389
31	F-Statistic	
32	Prob (F-Statistic)	
33	Log-Likelihood	-1,530.14
34	Model Sum of Squares	768,360,455.49
35	Sum of Squared Errors	180,102,937.32
36	Mean Squared Error	1,104,926.00
37	Std. Error of Regression	1,051.15
38	Mean Abs. Dev. (MAD)	774.31
39	Mean Abs. % Err. (MAPE)	7.51%
40	Durbin-Watson Statistic	2.328
41	Durbin-H Statistic	
42	Ljung-Box Statistic	45.11
43	Prob (Ljung-Box)	0.0057
44	Skewness	0.456
45	Kurtosis	3.774
46	Jarque-Bera	10.972
47	Prob (Jarque-Bera)	0.0041

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Future Test Year Forecasted Sales and Peaks

New Mexico Residential Service Customers

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
1					
2	NM_Econ.HH_NM	888.169	5.892	150.745	Total Households New Mexico service area
3	Binary.Dec	-33.853	16.290	-2.078	Binary variable for December=1, otherwise=0
4	Binary.Bin0118	-196.382	66.782	-2.941	Binary variable for January 2018=1, otherwise=0
5	Binary.Bin0120	213.911	66.643	3.210	Binary variable for January 2020=1, otherwise=0
6	AR(1)	1.797	0.085	21.206	First order autoregressive term
7	AR(2)	-0.803	0.083	-9.670	Second order autoregressive term
8	MA(1)	-0.542	0.122	-4.443	First Order Moving Average
9	**Model Statistics**				
10	Iterations	20			
11	Adjusted Observations	207			
12	Deg. of Freedom for Error	200			
13	R-Squared	0.999			
14	Adjusted R-Squared	0.999			
15	AIC	9.372			
16	BIC	9.485			
17	F-Statistic				
18	Prob (F-Statistic)				
19	Log-Likelihood	-1,256.71			
20	Model Sum of Squares	3,515,674,890.04			
21	Sum of Squared Errors	2,273,870.41			
22	Mean Squared Error	11,369.35			
23	Std. Error of Regression	106.63			
24	Mean Abs. Dev. (MAD)	75.46			
25	Mean Abs. % Err. (MAPE)	0.09%			
26	Durbin-Watson Statistic	1.960			
27	Durbin-H Statistic				
28	Ljung-Box Statistic	21.00			
29	Prob (Ljung-Box)	0.6388			
30	Skewness	0.355			
31	Kurtosis	5.058			
32	Jarque-Bera	40.881			
33	Prob (Jarque-Bera)	0.0000			

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Future Test Year Forecasted Sales and Peaks

New Mexico Small Commercial and Industrial Customers

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	NM_Econ.HH_NM	214.713	6.098	35.210	Total Households New Mexico service area
3	AR(1)	1.253	0.070	17.911	First order autoregressive term
4	AR(2)	-0.260	0.070	-3.719	Second order autoregressive term

5	**Model Statistics**	
6	Iterations	40
7	Adjusted Observations	195
8	Deg. of Freedom for Error	192
9	R-Squared	1.000
10	Adjusted R-Squared	1.000
11	AIC	7.061
12	BIC	7.111
13	F-Statistic	
14	Prob (F-Statistic)	
15	Log-Likelihood	-962.15
16	Model Sum of Squares	509,870,289.79
17	Sum of Squared Errors	220,417.60
18	Mean Squared Error	1,148.01
19	Std. Error of Regression	33.88
20	Mean Abs. Dev. (MAD)	24.84
21	Mean Abs. % Err. (MAPE)	0.13%
22	Durbin-Watson Statistic	2.152
23	Durbin-H Statistic	
24	Ljung-Box Statistic	60.33
25	Prob (Ljung-Box)	0.0001
26	Skewness	0.672
27	Kurtosis	5.732
28	Jarque-Bera	75.316
29	Prob (Jarque-Bera)	0.0000

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Future Test Year Forecasted Sales and Peaks

New Mexico Other Public Authority Customers

Line No.	Variable	Coefficient	StdErr	T-Stat	Definition
2	Economic.HH_NM_Log	380.886	3.917	97.238	Natural Log of Total Households New Mexico service area
3	Binary.Bin0908	6.471	2.272	2.847	Binary variable for September 2008=1, otherwise=0
4	Binary.Bin0412	8.482	2.272	3.733	Binary variable for April 2012=1, otherwise=0
5	Binary.Bin0116	8.799	2.272	3.872	Binary variable for January 2016=1, otherwise=0
6	Binary.Bin0217	-24.484	2.272	-10.775	Binary variable for February 2017=1, otherwise=0
7	AR(1)	0.980	0.004	227.828	First order autoregressive term

8	**Model Statistics**	
9	Iterations	10
10	Adjusted Observations	168
11	Deg. of Freedom for Error	162
12	R-Squared	0.998
13	Adjusted R-Squared	0.998
14	AIC	2.356
15	BIC	2.468
16	F-Statistic	
17	Prob (F-Statistic)	
18	Log-Likelihood	-430.31
19	Model Sum of Squares	696,051.40
20	Sum of Squared Errors	1,650.57
21	Mean Squared Error	10.19
22	Std. Error of Regression	3.19
23	Mean Abs. Dev. (MAD)	2.35
24	Mean Abs. % Err. (MAPE)	0.14%
25	Durbin-Watson Statistic	1.737
26	Durbin-H Statistic	
27	Ljung-Box Statistic	23.64
28	Prob (Ljung-Box)	0.4824
29	Skewness	0.303
30	Kurtosis	3.581
31	Jarque-Bera	4.928
32	Prob (Jarque-Bera)	0.0851